A 1490. i. 34

SIX MONTHS TOUR

THROUGH THE

NORTH of ENGLAND.

CONTAINING,

An Account of the preſent State of AGRICULTURE, MANUFACTURES and POPULATION, in ſeveral Counties of this Kingdom.

PARTICULARLY,

I. The Nature, Value, and Rental of the Soil.
II. The Size of Farms, with Accounts of their Stock, Products, Population, and various Methods of Culture.
III. The Uſe, Expence, and Profit of ſeveral Sorts of Manure.
IV. The Breed of Cattle, and the reſpective Profits attending them.
V. The State of the Waſte Lands which might and ought to be cultivated.
VI. The Condition and Number of the Poor, with their Rates, Earnings, &c.
VII. The Prices of Labour and Proviſions, and the Proportion between them.
VIII. The Regiſter of many curious and uſeful Experiments in Agriculture, and general Practices in rural Oeconomics communicated by ſeveral of the Nobility, Gentry, &c. &c.

INTERSPERSED WITH

Deſcriptions of the SEATS of the NOBILITY and GENTRY; and other remarkable Objects: Illuſtrated with Copper Plates of ſuch Implements of Huſbandry, as deſerve to be generally known; and Views of ſome pictureſque Scenes, which occurred in the Courſe of the Journey.

ALSO,

EXPERIMENTS on REARING and FATTENING of HOGS. As laid before the SOCIETY of ARTS, &c.

La ſeule voie de ſe procurer un corps complet d'Agriculture ſeroit, ſans doute, da raſſambler les diverſes obſervations qu'auroient fourni dans chaque province. ENCYCLOPEDIE.

IN THREE VOLUMES.

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A SIX

SIX MONTHS TOUR, &c.

LETTER XI.

WILLAM DANBY, Eſquire, of *Swinton*, has enabled me to give the following account of the huſbandry about that place.

The ſoil conſiſts chiefly of loam and gravel; lets from 8*s.* to 25*s. per* acre. (Theſe are the old lands, not the moorſide farms; of them hereafter.)

Farms riſe from 5*l.* to 40*l.* a year, ſome few of 60*l.* Their courſes are,

	1. Fallow	2. Wheat	3. Beans.
Another,	1. Fallow	2. Wheat	3. Oats.
Another,	1. Fallow	2. Barley	3. Turnips.

This is the cart before the horſe.

For wheat they plough four or five times, ſow from nine to eleven pecks, about *Michaelmas*, and reckon the average crop about two quarters and a half. They plough three times for barley, ſow from 10 to 12 pecks in *April*, and gain at a medium the ſame quantity as of wheat. For oats they give but one ſtirring, ſow four buſhels and a half in *March*, and reckon the mean crop at three quarters. They give but one earth for beans, ſow as much as of oats, the end of *February* or the beginning of *March*, broadcaſt; never hoe; the crop two quarters; uſe them for horſes and hogs, and alſo grind them into meal, for cows and fatting cattle. They plough but once for peaſe, ſow nine or ten pecks in *March*; the crop

the ſame as of beans. They give four or five earths for rye, ſow 10 pecks, as ſoon as the wheat is in the ground, and reap upon an average 20 buſhels.

For turnips they give four ploughings, ſow them the end of *May* or beginning of *June*; it is known among the farmers that ſuch a practice as hoeing exiſts, and ſome of them begin to talk a little of it, but very few have practiſed it. The average value *per* acre 2*l.* 10*s.* They feed them off with ſheep, uſe them for milch cows, and the finiſhing fatting oxen that have had the ſummer's graſs.

They plough once or twice for rape, ſow it the end of *July*, never feed it; the average crop of ſeed four quarters: Sow wheat after it. They know nothing of clover.

In the management of their manure, they are very little attentive to the raiſing large quantities in the farm-yard; for they never chop the ſtubbles, and feed all their hay in the fields. Their principal dependance is upon lime, of which they lay from one to two and a half chaldrons *per* acre, at the expence of 8*s.* per chaldron, beſides the leading. The improvement laſts good for two crops: But unleſs it is laid on very early, it does better for the ſecond than the firſt. Some farmers, much more ſpirited than the reſt, mix it with earth; a chaldron to ſix or eight loads of good loam: They lead it hot out of the kiln, ſlack it, and then mix it. They leave it three or four months, and then adding ſome dung to the heap, turn it over all together a ſecond time. They lay it upon graſs land at the rate of thirty three horſe cart loads an acre; and find the improvement very great: This is certainly excellent huſbandry, and cannot be too much commended.

Good graſs lets from 20*s.* to 25*s.* an acre: It is uſed chiefly for the dairy; one acre and an half they reckon ſufficient for keeping a cow through the ſummer, or ſeven ſheep. Their breed of cattle is the ſhort horned, which they reckon much the beſt. The annual pro-

duct

duct of a cow 5*l.* and four gallons of milk a day the average quantity. To ten cows they keep three or four ſwine. A dairy maid can take care of 10 or 12. The winter food is chiefly hay, (very little ſtraw) and each cow in general eats two good acres. Till calving they keep them in the field, but in the houſe afterwards. The ſummer joiſt from 20*s.* to 25*s.* The calves for the butcher ſuck a month, but for rearing only 10 days.

Their flocks of ſheep riſe from 20 to 60; the profit they reckon at 10*s.* each. They keep them through the winter upon hay and turnips, beſides graſs. The ſummer joiſt is 5*s.* and the winter the ſame. To keep them through *April* and part of *May* they reckon worth 6*d.* a week. The average fleece four pounds and a half.

In tillage, they reckon three horſes and two oxen, or five horſes, neceſſary for the management of 50 arable acres. They uſe four horſes, and four horſes and two oxen in a plough, which do ſcarcely an acre a day. Five ſhillings *per* acre is the price of ploughing; and the common depth of ſtirring about five inches.

The annual expence of a horſe, ſhoeing included, they calculate at 7*l.* The ſummer joiſt is 45*s.* and that of winter 1*s.* 6*d.* a week. The winter food of their oxen is ſtraw, on which they work them, but in ſpring they give them ſome hay with it. Oxen they reckon much the ſteadieſt draught, and to plough the land the beſt, but horſes are more liked in general.—The time of breaking up the ſtubbles for a fallow various, but never before *Chriſtmas*.

They know nothing of cutting ſtraw into chaff.

In the hiring and ſtocking of farms they reckon 250*l.* requiſite for one of 50*l.* a year.

Land ſells from 35 to 45 years purchaſe. Eſtates are all either very little, under 30*l.* a year, or very large.

Tythes are generally compounded, 2*s*. an acre for all the arable.

Poor rates 2*d*. to 5*d*. in the pound, at *Maſſam* 10*d*. The employment, ſpinning of worſted; a woman earns, if induſtrious, 6*d*. or 8*d*. a day. All drink tea.

The farmers carry their corn ſix or eight miles.

The general œconomy of the country will be ſeen from the following ſketches of farms.

	100 Acres in all	20 Sheep
	50 Graſs	1 Man
	50 Arable	1 Boy
	£. 65 Rent	1 Maid
	5 Horſes	1 Labourer
	10 Cows	1 Plough
	8 Young Cattle	2 Carts.
Another,	65 Acres in all	40 Sheep
	20 Arable	1 Man
	45 Graſs	1 Boy
	£. 40 Rent	1 Maid
	3 Horſes	1 Labourer
	8 Cows	1 Plough
	6 Young Cattle	1 Cart.
Another,	250 Acres in all	30 Sheep
	50 Arable	2 Men
	200 Graſs	1 Boy
	£. 80 Rent	1 Maid
	6 Horſes	2 Labourers
	4 Oxen	2 Ploughs
	10 Cows	2 Carts.
	15 Young Cattle	

LABOUR.

In harveſt, 26*s*. or 28*s*. and board and lodging.

In hay time, a mower 30*s*. a month, and board and lodging.

In winter 6*d*. a day and board.

Mowing

Mowing graſs 2*s.* *per* acre.
Firſt man's wages, 10*l.* to 13*l.*
Next ditto, 7*l.*
Boys of 10 or 12 years, 3*l.*
Dairy maids, 5*l.*
Other maids, 3*l.* 10*s.* to 4*l.* 4*s.*
Women *per* day in harveſt, 10*d.* to 1*s.*
——— in hay time, 7*d.* or 8*d.*
——— in winter, 6*d.*

IMPLEMENTS, *&c.*

Very few waggons; but the price 25*l.*
A cart, 10*l.*
A plough, 20*s.*
A harrow, 11*s.*
A wooden roller, 1*l.* 1*s.*
A ſtone ditto, 2*l.* 2*s.*
A ſcythe, 4*s.*
A ſpade, 4*s.*
Shoeing, 1*s.* 6*d.*

PROVISIONS, *&c.*

Cheeſe, - - 2*d.*
Butter, - - 8——22 ounces.
Beef, - - 3
Mutton, - - 3
Veal, - - 3
Pork, - - 3½
Milk, - - ½*d.* a pint and a half.
Potatoes, - - 3½ a peck.
Turnips, - - 3 ditto.
Candles, - - 6½
Soap, - - 7
Labourer's houſe rent, 15*s.* to 40*s.*
——— firing, 15*s.*
——— tools, 6*s.*

BUILDING.

Bricks 12*s* *per* 1000.
Oak timber, 1*s.* 2*d.*
Aſh, 1*s.*
Elm, 10*d.*

Maſon *per* day, 20*d*
Carpenter, 20*d*.
A thatcher, 1*s*. 6*d*.
Stone walling in mortar.
Fence walls, 2*s* 6*d*. *per* rood.
Houſe ditto, 3*s*. 6*d* *per* rood.
Farm houſes of ſtone and ſlate

But beſides this common huſbandry, there is in this neighbourhood another, which is that of the farms called the moorſide ones. Theſe are tracts of land that have in proceſs of time been incloſed from the moors, and thrown into ſmall farms: but I ſhould obſerve, that ſcarce any of theſe incloſures have been made of late years; they are all old farms. Many of them contain very large fields of moorland, an hundred acres and upwards in a field, that are all over-run with ling, *&c. &c.* in as wild a ſtate as any moor, and differing from it in nothing but in the being incloſed——and yet the ſlovenly occupiers have ſcarce any idea of cultivating them.

The ſoil of theſe farms is various, but conſiſts in general of ſome light loams, ſome ſandy, ſome inclinable to gravel, and much of it black moory earths reduced to loam by a ſeries of culture. Their management is in general to change it from graſs to arable, and the contrary, except the beſt of the graſs which is kept ſuch conſtantly. Their method of breaking up is all by paring and burning, which is done in common at the expence of 16*s*. 6*d*. *per* acre. The firſt crop they take is turnips, which are worth upon an average 40*s*. an acre, but they are never hoed: They lime, one chaldron *per* acre for this crop. Next they ſow oats, of which they get 60 buſhels *per* acre; then potatoes, of which about 120 buſhels *per* acre; after theſe they ſow oats again, and lay down to graſs with them But this is all relative to land they find in culture, for ſcarce any ſpirit prevails among them of breaking up the uncultivated

One of Mr. *Danby*'s tenants, however, *Lightfoot* by name, has ſhewn in one or two inſtances ſomewhat more attention to improvements than the general herd. He has cultivated cabbages for four years, winter

winter fallows the land for them, and ſets the rows three feet aſunder, and the plants 22 inches; he finds them, both in quantity and uſe, far beyond turnips; values all he has had at 6*l.* an acre. I aſked him what he would take for the preſent year's crop of three acres; he replied, he would not ſell them at all. —Would you take 10*l.* an acre?—"'Tis a deal of money," replied he, "but I would not part with them at all."—An anſwer, in the mouth of a common farmer, and that a little one too, after four years experience, deciſive with me in reſpect to the value of cabbages.

He cultivates potatoes conſtantly, plants 14 buſhels *per* acre, and gains 200.

A moſt excellent manure he has found out, which is a compoſt of bog earth and lime; he has uſed it for ſome time, and finds that nothing anſwers ſo well.

Mr. *Lightfoot* keeps fourteen cows, of which he makes 40 firkins of butter, beſides cheeſe enough for his family, the price 25*s.* a firkin. If no cheeſe is made, he has from ſix to nine pounds of butter a week *per* cow.

But the object much the moſt worthy of attention in this country, is the immenſe tracts of moors which back it to the weſtward. Mr. *Danby* poſſeſſes ſeveral thouſands of contiguous acres, which do not yield him a tenth part as many farthings a year. And among his neighbours, the Duke of *Bolton*, the Earl of *Litchfield*, Lord *Bruce*, Mr. *Aiſlabie*, and Mr. *York*, likewiſe poſſeſs vaſt tracts of theſe waſte lands which call ſo loudly for improvement.

As I was particularly attentive to all the accounts I could gain of theſe moors, and rode over and examined them ſeveral times, I can lay an account of them before you, which is perfectly genuine.

I divide them into the following ſorts.

Firſt, The dry moors, to appearance almoſt covered with whin-ſtone, many of them very large. The ſpontaneous growth, ling of various height,

from one foot to three. The ſoil a light black moory earth, from ten inches to a yard deep, and under that a channelly ſandy gravel.

Second, The ſame in all reſpects as the preceding, except the ſtones which are but few, and ſcarce ſufficient to build the walls for incloſing.

Third, A dry black moory ſoil as before. The ſpontaneous growth, ling, whins, and brakes.

Fourth, The ſame ſoil, but the ſpontaneous growth whins and brakes.

Fifth, A dry ſoil of a lighter colour, and ſome of the above-mentioned black earth: The ſpontaneous growth, a benty kind of graſſy turf. I know not how to deſcribe it. In the north they call the ſoil that bears it *white land*, alſo the ſame ſoil yielding that production, and whins and brakes at the ſame time.

Sixth, Very wet boggy moors, out of which peat is dug. The ſpontaneous growth ſcarce any thing but ſtraggling ſtinted ling.

Seventh, Ditto, but the ſpontaneous growth turf *(whiteland)* alone.

Eighth, Dry ſound light loam of various depths, from one foot to five; the ſpontaneous growths, common graſs alone, or graſs and whins, or brakes.

I am ſenſible that more diviſions might be made of theſe ſoils; but the above will be ſufficient to explain my meaning. The wet and dry moors it may be ſuppoſed vary in degree by gradation, until it may be difficult to pronounce whether they are wet or dry; And the ſpontaneous growths intermix in the ſame manner; but the above characteriſtics are to be underſtood as marking principally the nature of the land.

All the ſtone hitherto diſcovered is of a very ſoft gritty nature, that cuts eaſier than wood; No limeſtone.

The experimental knowledge of the nature of theſe ſoils is yet but in its infancy; The moor-ſide farmers have

have done ſcarce any thing; but another ſource of ſome valuable information muſt not be overlooked.

A thin ſeam of coal is found under theſe extenſive waſtes and wilds. Mr. *Danby* has a colliery upon the edge of his moors, which employs many hands. The cottages of the colliers, are ſcattered about at no great diſtance. Each had at firſt a ſmall garden, which, from the great foreſight and refined politicks (for I can give the conduct no other name) of their landlord, grew into little farms.

Miners in general, I might almoſt ſay univerſally, are a moſt tumultuous, ſturdy ſet of people, greatly impatient of controul, very inſolent, and quite void of common induſtry.——Thoſe employed in the lead mines of *Craven*, and in many collieries, can ſcarcely, by any means, be kept to the performance of a regular buſineſs; upon the leaſt diſguſt, they quit their ſervice, and try another. No bribes can tempt them to any induſtry after the firſt performance of their ſtated work, which leaves them half the day for idleneſs, or rioting at the alehouſe.

Mr. *Danby* partaking of theſe inconveniences in common with his neighbours, ſtruck upon a remedy which ſufficiently diſplays his knowledge of human nature.——"If," ſaid he, "I can give theſe fellows a better notion of a local property and happineſs, I ſhall gain a power over them, which I can eaſily turn to their good, and the benefit of their families, as well as to my own convenience."——He executed the thought, and it has ſucceeded to admiration.

Obſerving ſome of the men (that had a little induſtry in them,) to cultivate their gardens better than their comrades, he made them an offer of incloſing from the moor a field for each, contiguous to their gardens, that they might raiſe their own corn inſtead of buying it. Which was accordingly done, and no additional rent taken for it.

Two or three tolerable examples had great effects: By degree, others applied for the ſame favour, which

was

was always readily granted; and, in the courſe of ſome years, very few of the cottages remained without a field adjoining. The huſbandry in them was nothing very accurate, but it was of great ſervice to the families, and it anſwered their landlord's purpoſe of rendering them more dependant, though at the ſame time more happy. One fellow aroſe among them (of whom more hereafter) who ſet them an example of much better huſbandry, inſomuch that now there is not a collier without his farm; each from three or four to 20 acres of land. Moſt of them keep a cow or two, and a gallway, raiſe the corn, *&c.* they eat; are well fed, well cloathed, induſtrious and happy. Their time is ſpent at home inſtead of the alehouſe:——thoſe young fellows, who formerly were riotous and debauched, now marry, ſettle, and become the honeſt fathers of a laborious and valuable race of children. Nothing is ſo much deſired as a little farm; which, being a reward for induſtry and ſobriety, becomes an incitement to a continued good behaviour: And by this well-concerted conduct, the whole colliery, from being a ſcene of idleneſs, inſolence, and riot, is converted into a well-ordered and decently-cultivated colony: It is become a ſeminary of induſtry; and a ſource of population.——Great is the merit of being ſo offended at vicious habits as to determine their eradication,—to project a ſcheme of reformation, as beneficial to the public as himſelf,—to conduct it through all the difficulties of overcoming and changing human nature herſelf—to convert a den of thieves and raſcals into honeſt and good ſubjects—this was effected by Mr. *Danby*, and without the violence of a Pope *Sixtus*:—he planned with the ſagacity of a *Machiavel*, and executed with the humanity of a *Trajan*.

But to return to the point in queſtion.

Looking over ſome of the fields of theſe colliers, and aſking them after their products, I found they all broke up their land by paring and burning, and ſowed

ſowed turnips upon it; ſometimes raiſing them as large as a man's head: Oats the next crop, of which they get from 40 buſhels upwards; 66 buſhels have been gained from half an acre: 120 buſhels of potatoes they frequently raiſe upon the very worſt land. They likewiſe ſow wheat, rye and maſlin, and get very good crops. But all lay down to graſs as ſoon as proper. They lime it well. Mr. *Danby* is at the expence of walling in any quantity of the moor in fields contiguous to their farms, provided all their former land is well cultivated. They have it ſeveral years for nothing, but afterwards pay a trifling rent, that they may not graſp at more than they can cultivate after their day's work in the mines is over.

The beſt intelligence I gained was of *James Croft*, one of the colliers. But this man deſerves a more particular attention.

Thirteen years ago, he began his huſbandry by taking an acre of moor, which he pared and burnt, ſpread three chaldrons of lime among the aſhes, and ſowed it with oats, of which he got but an indifferent crop. He next threw in three more chaldrons, planted half of it with potatoes, and ſowed the other half with maſlin; the crops middling. He then limed it again, ſowed it with oats, the crop 35 buſhels. After another liming, ſowed it with oats, and gained 50 buſhels. Next he limed it again, and ſowed half of it with barley, and planted the other half with potatoes; the crops but indifferent. He then limed it again, and ſowed oats once more, of which he got 40 buſhels; with theſe oats he ſowed hay ſeeds, all he could get together or procure, which were 36 buſhels. After the oats were off, he mixed ſome lime and earth together and ſpread over the land: The graſs came very finely, and has been exceedingly good ever ſince; and improving every year, it is now worth 20ſ. an acre: I viewed it attentively, and think it well worth the rent.

This

This firſt eſſay was very ſpirited, but not carried on upon principles which can be altogether approved of: Indeed it could not be expected that a poor collier ſhould ſtrike at once, and without any experience, into an accurate and correct huſbandry.

His next effort was upon an addition of eight acres, which however was too much for him to improve at once, but he effected it all by degrees. Theſe acres were exceeding ſtoney, ſo that after a diviſion by walls built out of them, many remained; one acre coſt him two months to clear and fill up the holes. Some ſingle ſtones required near a week. Laborious as the work was, he completed it by degrees, and pared and burnt the ſoil: He threw theſe lands into a better huſbandry (though not totally defenſible) than what he uſed before. His method was to ſow turnips upon the pared and burned land, after liming two chaldrons *per* acre: It coſts, by the time it is on the land, 14*s.* 6*d.* a chaldron. The turnips are generally worth from 20*s.* to 30*s.* an acre. He draws and ſcatters them on his graſs for his cows and young cattle.

After the turnips he ploughs four times, lays on two chaldrons *per* acre more of lime, and ſows oats, eight buſhels *per* acre; the crop varies from 40 to 60 buſhels.

After theſe oats, he ſows four more ſucceſſive crops of them; for each of which he ploughs three or four times, and alſo limes at the rate of two chaldrons *per* acre. The average of theſe crops is 40 buſhels *per* acre. With the laſt he lays down to graſs, by ſowing plenty of hay ſeeds.

This has been his general courſe, but ſometimes he has ſown rye, of which he generally gets 32 buſhels *per* acre. Potatoes he has regularly cultivated; ſets them in rows two feet aſunder, and one foot in the rows; in which manner 13 buſhels plant an acre; the mean produce is 158 buſhels.

Two years ago, he took in eight acres more, on which he is now hard at work. It is aſtoniſhing with what

what perſeverance he attacks the moſt enormous ſtones, cutting them in pieces, carrying them away, and then bringing mold to fill the holes up; and he has ſuch an idea of neatneſs, that he will not paſs one.

He has five acres of graſs; his management of which is very good: He lays all the dung he can raiſe upon it, mixed well with lime; and ſometimes with good earth. And this dreſſing he repeats every third year, without ever failing. His ſtock of cattle is three milch cows, a heifer and his gallway; their winter food hay, turnips, and ſtraw. Two acres of commonly improved graſs (from moors) he reckons ſufficient to ſummer-feed a cow, but an acre and an half of *his* will do. He makes 6 lb. of butter *per* cow *per* week, 24 ounces to the lb. for three months, and 4 lb. the reſt of the ſummer. And each of his cows eats an acre of hay in the winter. He has not yet had enough of his own for them, buying ſome, but hopes ſoon to effect that.

Beſides the mere huſbandry of his fields, he has done ſomething in the ornamental way; having almoſt ſurrounded two of his cloſes with a young plantation of firs and other trees, which thrive extremely well.

Attentive to every object that can render his little farm either profitable, convenient, or agreeable—he has with no ſlight trouble directed a little rill of water from the moors through his fields; by which means he not only has water in every field for his cattle, but can alſo water ſome of his graſs, and thereby fertilize it much.

Were I to dwell upon every circumſtance of this collier's huſbandry, I ſhould be afraid of tedioufneſs, but I ſhall not conclude without attempting to give you ſome idea of the MAN, as well as his *farm*.

I have ſhewn you how he has managed for ſeveral years above nine acres of land, much of it always in tillage, and ſome conſtantly freſh breaking up, and improving:——we have found him cropping his land

ſeveral

ſeveral years ſucceſſively, (a practice though bad, yet of increaſing labour) never ſowing any without a previous ample liming, and three or four ploughings; ———adding to his cultivated land, by perfectly clearing the freſh ſoil from all ſtones, ſome of them an enormous ſize, of many tons weight; and by paring and burning, in the moſt ſpirited and laborious manner.———When you conſider theſe circumſtances, and that at the ſame time he has had the courage to attack eight acres more,——will you not conclude he has received much aſſiſtance, either of money or labour; or that many favourable circumſtances hitherto unrelated have enabled him to make ſuch advances in ſo ſpirited a conduct?

But the very contrary of all this is the caſe. His work in the colliery has been regular, equal in every reſpect to the other men, and in ſome ſuperior: His hour of going to the mine is 12 o'clock at night, the work is over at noon the next day. The remainder is all the time he has had to perform what I can ſcarcely call leſs than wonders: Nor has he ever received the leaſt aſſiſtance of any kind, or ever expended one ſhilling in hiring the labour of another man. The quantity of lime he has laid on his land is very great, and much more than what is commonly uſed by the neighbouring farmers; the number of ploughings he has given his fields is equally ſuperior; and yet all this labour has been performed with a ſingle gallway;—the lime brought ſix miles. It is aſtoniſhing what a ſpirit of perſeverance muſt have actuated this extraordinary man, to execute, with ſuch ſlight engines, works that will put many farmers with teams to the bluſh.

Some aſſiſtance in weeding potatoes in harveſt, *&c.* and ſuch ſlight work, he has received from his family; but you may ſuppoſe it not conſiderable, when I tell you that, of four or five children, he has only one ſon about 14 years of age, who works with him conſtantly in the colliery.

From

From the time of leaving off work in the mine, till that of ſleeping, he regularly ſpent in unremitted labour in his farm: Since his beginning he has never had more than four hours ſleep, and, of moon-light or bright ſtar-light nights, ſeldom ſo much. The regular ſevere fatigue of 12 hours labour in the colliery has not been ſufficient to bow down the ſpirit of this poor fellow;—he applies the remainder of the day, and even ſteals from the night, to proſecute his favourite works of huſbandry—that is, to make up his hours of work TWENTY, out of the twenty-four.

Such a conduct required a genius of a peculiar caſt. Daring in his courage, and ſpirited in his ideas, the moſt extenſive plans are neither too vaſt nor too complicated to be embraced with facility by his bold and comprehenſive imagination. With a penetration that ſees the remoteſt difficulty, a prudence and firmneſs of mind that removes every one, the moment it is foreſeen; we attribute the wonders he has performed to the powers of his mind, and forget almoſt that the whole which is executed of his ideas, has been the work of his own hands. The ſevereſt fatigue, the moſt aſſiduous labour have been unable to quench the fire of the one, or repreſs the vigour of the other. The greateſt, and indeed the only object of his thoughts is the improvement of the wilds that ſurround him; over which he caſts an anxious, but magnanimous eye, wiſhing for the freedom to attack, with his own hands, an enemy, the conqueſt of whom would yield laurels to a man of ample fortune.

I aſked him what he would do if he had his whole time to apply to his farm; "I would perform ſomething:" ſaid he, "at preſent I do nothing." Hinting to him that I would mention to Mr. *Danby*, the releaſing him from the colliery, that all his time might be applied to farming,——his countenance was animated at the very idea,—his eyes ſparkled with pleaſure.

Upon

Upon my aſking him, if he did not think every part of the moors were highly ſuſceptible of improvement—"Improvement! Sir," he replied with eagerneſs, "there is not an acre but might be made as good land as a man would wiſh to farm."

Upon my aſking him further, if he thought he could improve a larger tract than was within the power of one pair of hands, by having other men, horſes and carts, *&c.* put under his direction? "Aye ſure," he replied, "for it is nothing more than extending the proportion of ten acres to a great number. It would be hard indeed, Sir, if a man that had improved ten acres with his own hands, could not direct the improvement of an hundred or a thouſand."

What would you do if any unthought-of accident gave you an hundred pounds? "Lay it all out in the improving land."

I had a long converſation with him upon theſe ſubjects; and found him very ſenſible, ſpirited, and moſt enthuſiaſtically devoted to the improving of moors. His ideas are clear and ſhining; and tho' his language is totally unrefined, and provincial, inſomuch that ſome attention is neceſſary to comprehend the plaineſt of his meaning, yet whoever will take the pains to examine him, will find him a genius in huſbandry: A diamond of the firſt water, but ſo buried in the obſcurity of the mine, as to be ſcarcely diſtinguiſhable from the vulgar rubbiſh that ſurrounds it.

The view of this remarkable man's little farm, and the converſation I had with him upon the improvement of moors, a point of ſuch vaſt importance in this country, prejudiced me ſo much in his favour as to make me wiſh it were poſſible to enable him not only to add greatly to his farm, but to conduct the culture of it upon a ſpirited plan.

I mentioned it to Mr. *Danby*, (who had at firſt introduced me to him as an extraordinary fellow) and he agreed with me that his being a collier ſpoiled a good

good farmer, adding, that he had thoughts of giving him more land, and alſo releaſing him from the coal-mine. This gave me much pleaſure, not doubting but ſo ſpirited a mind, with a body ſo active and vigorous, would alone do wonders.

But having ſince reflected further upon the effects which might be drawn from the labour of this poor but moſt induſtrious fellow, I cannot but think it much to be regretted, that the nation at large ſhould loſe the benefit that might be made to reſult from the labours of a genius in the moſt uſeful walk of all others.

In a word, it is greatly to be wiſhed, that the man might be ſupported in ſuch a manner, as to enable him to do ſomething more than is poſſible for his own hands to perform. In ſo confined a ſituation, he muſt unavoidably be under ſuch difficulties as will not allow him to ſet the example he would, were his endeavours extended to a larger ſphere.

Had this man (by prudent and gradual additions) ſervants, horſes, carts, implements, in a word, the whole ſtock of a farm given him, and 50, 60, or 100 acres of moor-land added by degrees, with barns, ſtables, *&c.*——or fixed properly in a very wild bad moor farm, (for I would never give him good land to cultivate) I have no doubt but he would ſet an example of improvement, that would have excellent effects upon this uncultivated region; and convince thoſe who doubt of the profit of cultivating moors, that no method whatever of expending money is ſo highly advantageous.

As a national benefit, I much wiſh that ſomething of this ſort could be done for this uncommonly induſtrious fellow: The object is too much to expect of one perſon, and greatly ſuperior to my fortune, but if the FRIENDS OF IMPROVEMENT, in this age of public generoſity, would ſubſcribe a trifle for forwarding this genius; the deſign would be worthy the warmeſt praiſe; and the effects, in all probability,

anſwerable to the moſt ſanguine expectations.——— I venture however to throw out this hint; and if any of my readers are inclined to ſupport this poor, but honeſt little cultivator, they may pay any trifle they think proper into the hands of Mr. *Nicoll*, in St. *Paul*'s church-yard, the publiſher of this book; and I will engage that the ſums ſo ſubſcribed ſhall be applied in the beſt manner, for the advantage of *James Crofts*, and the names of the ſubſcribers, with their reſpective ſums, and the diſpoſition, inſerted in the public papers; deſiring in the mean time to write my own name, with one guinea, at the foot of the ſubſcription *.

But to return to the moors themſelves.

Thoſe in which the colliers farms are ſituated upon muſt be ranked under my *firſt* head of diviſions, and are conſequently of a very bad and unfavourable nature; and yet we find from the preceding minutes,

* The following are Correſpondents of Mr. *Nicoll*, who will receive any contributions.

Barnſley,	Mr. Bent.	*Lancaſter*,	Mr. Aſhburner.
Bath,	Mr. Leake.	*Leeds*,	Mr. Wright.
Birmingham,	Mr. Pearſon & Co.	*Lincoln*,	Mr. Mood.
Briſtol,	Mr. Cadell.	*Lynn*,	Mr. Hollingſworth.
Bury,	Mr. Green.		
Cambridge,	Mr. Fletcher and Co.	*Mancheſter*,	Mr. Harrop.
		Newcaſtle,	Mr. Slack.
Cheſter,	Mr. Lawton.	*Northampton*,	Mr. Lacey.
Coventry,	Mr. Jopſon.	*Nottingham*,	Mr. Berrow.
Darlington,	Mr. Darnton.	*Oxford*,	Mr. Jackſon.
Derby,	Mr. Roe.	*Peterborough*,	Mr. Knapp.
Dublin,	Mr. Williams.	*Richmond*,	Mr. Craggs.
Durham,	Mr. Ladler.	*Sallop*,	Mr. Eddowes.
Edinburgh,	Mr. Balfour.	*Southampton*,	Mrs. Remakle.
Exeter,	Mr. Thorn & Co.	*Stamford*,	Mr. Knott.
Glaſgow,	Mr. Stalker.	*Stockton*,	Mr. Pickering.
Glouceſter,	Mr. Raikes.	*Tunbridge*,	Mr. Baker.
Halliſax,	Mr. Edwards.	*Wakefield*,	Mr. Rayner.
Hereford,	Mr. Pugh.	*Warrington*,	Mr. Banks.
Hull,	Mr. Brown.	*Wincheſter*,	Mr. Burdin.
Ipſwich,	Mr. Shave.	*Yarmouth*,	Mr. Eton.
Kendal,	Mr. Aſhburner.	*York*,	Mr. Etherington.

that

that the products are very conſiderable. The common fellows gained turnips as large as their heads—oats from 40 buſhels to 132,——and 120 buſhels of potatoes. *Croft* got 60 buſhels of oats the firſt crop, and then four more ſucceſſively of 40 each,——four quarters of rye—and 150 buſhels of potatoes.

Now it is very clear, that the land (with proper liming) that will yield ſuch productions, and with no better ploughing than can be effected with a ſingle gallway, muſt in its nature be very good; five ſucceſſive crops of oats, one would apprehend ſufficient to exhauſt any ſoil, but this land evidently ſtood it well, from yielding good graſs afterwards, which I viewed.———While we viewed *Croft*'s fields, Mr. *Danby* aſked his ſteward, who was preſent, what he could let ſuch graſs as all *Croft*'s at *per* acre? He replied, in quantities of any extent at 15*s*. *per* acre, but in ſmall parcels of 20 or 30 acres at 20*s*. An improvement which is aſtoniſhing, from land that was abſolutely and totally *waſte*. But the goodneſs of it alſo appears from *Croft*'s ſtock of cattle, and the quantity applied to feed a cow, which will be found not more perhaps than the medium quantity, through the cultivated countries of this whole tour.

It is from all theſe circumſtances evident enough, that this kind of moor-land is amply capable of improvement; and that there is nothing in the nature of the ſoil which gives any reaſon to doubt of rendering it exceeding good land. Theſe are facts that are totally indubitable.—The great queſtion is, the profit attending the improvement. The greateſt enemies to the cultivation of moors allow that they are capable of being made good land, they only deny the expediency of the buſineſs. Let us therefore, in the next place, conſider that point.

But firſt I ſhould remark, that the *third* diviſion of moor land, given above, is of a much ſuperior quality to the firſt and ſecond, brakes and whins being allowed by all the neighbours of the moors to be ſure

ſigns of good land; conſequently the *fourth* is better than the *third*. The *fifth* diviſion is univerſally allowed to be better than any ſoil that is black and yields ling. The *ſixth*, that is the boggy moors, are reckoned in the north very bad, but I believe rather from the ſuperior expence of the improvement, than from experimental knowledge, and that for reaſons which I ſhall offer hereafter, when I give a calculation of their improvement. The *ſeventh* ſoil is reckoned much better than the ſixth. As to the *eighth* diviſion, it is needleſs to mention it, being of itſelf only, with incloſing, richly worth 15*s.* an acre.

From this ſlight review, it is plain that the great point is the improvement of the *firſt*, *ſecond*, and *ſixth* diviſions, they being not only the moſt doubtful, but much the moſt common ſpecies.

The firſt buſineſs in all improvements is the incloſure, which, upon many of the moors, is a matter of no difficulty to determine, as immenſe tracts are abſolute property, without any right of commonage. The only method of incloſure uſed here is that of ſtone walls, and moſt excellent fences they are: The ſtones ſcattered over the land they looſen from the earth with wedges, and ſplit them into ſmall pieces; theſe they lay upon each other very artfully, building with them the walls, which are not only very ſtrong (laſting in full perfection beyond the memory of the oldeſt man), but have likewiſe a neat and good appearance. A ſmall addition of the expence will cut them all into regular oblongs, which makes them look to the full as well as any the moſt regular brick walls.

The expence of cutting (in the common manner), leading, and building the walls ſix feet high, is 5*s.* 6*d.* *per* rood, of ſeven yards running meaſure.——The gate-poſts are of ſtone, and excellent ones; they coſt ſcarce any thing; a gate, irons, and poſts, coſt 5*s.*

Upon theſe data we will proceed to calculate the expence of incloſing a given number of acres.

In

In a ſquare mile of land there are 640 acres; ſuch a tract, divided into fields of 71 acres each, will lie as in plate IV. fig. 1. each line a mile long; conſequently there will be eight miles of walling,—alſo ten gates.

The expence will be,

Eight miles at 3*s.* 6*d.* a rood,	—	£. 550
Ten gates, *&c.* the coſt in this country 5*s.* but as they are indifferent ones, I will ſay 10*s.*	—	5
Total incloſing,	—	555

In the next place, the buildings neceſſary are to be conſidered; theſe are a large barn, ſtables, cow-houſe, and hog-ſties, beſides the dwelling-houſe. All theſe, I was informed by ſeveral gentlemen in this country of large eſtates, could be raiſed of ſtone and ſlate, for 300*l.* but to obviate objections, I ſhall ſuppoſe 400*l.*

It ſhould here be remarked, that ſcarce a ſquare mile of moor is to be found which would not be cleared of ſtones by theſe diviſions, and the buildings; the very ſtoney parts being ſeldom of greater extent than from 10 to 30 or 40 acres: It would be an advantage to have ſuch a ſpot in a ſquare mile, as much of it probably would be found with an inſufficient quantity of ſtone to divide itſelf. At firſt ſight, the ſtoney moors appear very tremendous with an eye to improvement, but a little experience will ſhew theſe formidable ſtones in a much more advantageous light. A gentleman who has a large range of waſte property, may as eaſily throw a ſtoney ſpot into the middle of his improvement, as leave it on one ſide, and then the buildings will be erected as it were in the midſt of a quarry; the advantages of which are too obvious to require explaining.

The next buſineſs is the paring and burning the whole tract. From various and repeated intelligence, and obſervation, this I am perſuaded is the beſt me-

thod of breaking up all uncultivated lands; and, perhaps, I might add the beſt of lands. The expence is 16*s.* 6*d.* *per* acre; or for the 640 acres 528*l.*

Liming comes next, which, upon this peculiar tract of moors, is a very heavy expence; as no lime has hitherto *accidentally* been found: I uſe that term as ſearching for it in a ſpirited manner has never yet been done: In the preſent ſtate of things, lime coſts 14*s.* 6*d.* a chaldron, carriage included, but, if brought by the cultivator's own teams, would come much cheaper. Two chaldrons *per* acre ſhould be ſpread with the aſhes; it is more than the farmers uſe, and ſuperior to *James Croft*'s annual liming, as this land is not to be cropped as his was. The expence of 1*l.* 9*s.* *per* acre is 925*l.*

Theſe are the great objects of improvement. If a gentleman does not chuſe the trouble of farming the land till it is laid down in graſs, he may ſtop here and let the farm, leaving to the tenant (under proper reſtrictions) to reap the profit of the whole. Upon this plan we will next ſtate the whole expence,

		£.
Incloſing,	—	555
Buildings,	—	400
Paring and burning,	—	528
Liming,	—	925
Total,	—	2408

Having formed this calculation, I was very deſirous of knowing what the land in that ſituation would let for; and with this view I applied to Mr. *Danby*, who conſulted not only his ſteward, but ſeveral farmers: I likewiſe aſked the opinion of other gentlemen, who had attended peculiarly to theſe matters: Several aſſerted that ſo complete a farm, in ſuch excellent repair, and ſo thoroughly fenced, all the land improved, and manured, would let with the utmoſt eaſe for 15*s.* *per* acre: Others reckoned 12*s.* the value; and ſome thought 10*s.* would be an adequate rent: The

latter

latter is evidently beneath all reaſon; but, however, I ſhall take it into the calculation, and ſtrike the average of the three, or 12*s.* 6*d.* *per* acre. 640 acres, at that rent, amount to 400*l.* a year. This income from 2408*l.* is better than at the rate of 16 ½ *per cent.* The clear profit will be as follows.

Intereſt of 2408*l.* at 4 *per cent.* ſomething better than	— —	£. 96 *
Rent of the farm,	—	£. 400
Intereſt as above *,	—	96
Clear profit, *per ann.*	—	304

If this calculation, founded on the very beſt authority, and not exaggerated in one particular, does not prove the immenſe profit of improving moors, nothing can; nor is there an indiſputable truth in all nature. How loudly does it call upon their proprietors to awake from the ſtrange lethargy in which they have been dreaming for ſo many ages! The cultivation of a large tract of this land is an object of great importance to the largeſt fortunes; for the improvement amounts to near 10*s.* an acre annual income; and the nobility and gentry in the north do not reckon their moors by hundreds of acres, but by thouſands.

It is obſervable, that this improvement may be effected without a gentleman's taking any of the trouble or riſque of farming, ſince the lime is all brought for hire, and the paring and burning done by men alone, without horſes.

But a very great and material object in the improvement of moors in queſtion is the diſcovery of lime-ſtone; there is lime burnt within a few miles of them every way; I can therefore have no conception but a lime-ſtone quarry might be found ſomewhere in ſo

* The tenants keep every thing in repair, ſo there are no deductions; likewiſe an eſtate gained without a land-tax.

vaſt a tract of country; that it has not been found, is no argument againſt the probability; ſince the only perſons that uſe it are the neighbouring common farmers, who have no ideas of attempting any thing out of the old route, which they and their forefathers have long been uſed to: An accurate and vigorous ſearch for it has never been made. I have little or no doubt but ſucceſs would attend ſuch an attempt; and from that moment improvements would be worked at a much leſs expence; for the greateſt article in the preceding account is the lime, at ſix miles diſtance.

Before I conclude this ſtate, I ſhall vary the ſuppoſition a little; and ſuppoſe that fields of 72 acres would be too large to clear away the ſtones. I ſhall therefore ſuppoſe the diviſion 40 acres, (ſee plate IV, fig. 2.) in which caſe there will be ten miles of walling.

The expence then will be,

Ten miles, at 5*s.* 6*d.*	—	£.	687
Sixteen gates, *&c.* at 10*s.*	—		8
Buildings, —	—		400
Paring and burning,	—		528
Liming, —	—		925
			2548

400*l.* a year, from this principal, is 15 ½ *per cent.*

Rent,	— — —	£.	400
Intereſt of 2548*l.* at 4 *per cent.*			102
Clear profit,	—		298

This proportion will enable you to conceive that of ſmaller diviſions: The remarks before made remain equally applicable to this account, or to that of 20 acred diviſions.

The improvement of the boggy moors, which is the *ſixth* article, is in all reſpects the ſame as the preceding,

ceding, except the article of draining, which is the firſt buſineſs to be undertaken: This muſt vary according to the nature of the land; if it is ſtoney, the ſmaller ſort of drains (provided the bog is not ſo deep that they would ſink and be buried, which upon the moors is ſcarce ever the caſe) ſhould be covered ones, but if ſtones are ſcarce, then the drains ſhould all be open; the expence of the improvement depends upon the number of the drains, which muſt neceſſarily be various in every acre of land, conſequently no exact eſtimate can be made: But the profit of draining them cannot be doubted, for there is great reaſon to apprehend the ſoil of theſe wet parts naturally more fertile than the dry ones; the aſhes of them, when burnt, are a moſt excellent manure, and the crumblings of the dried peats are the ſame, as Mr. *Danby* experimentally knows. But I forbear to enlarge further upon an article in which I have not the ſame authorities for reaſonings as I had with the former claſſes.

Laſtly, I muſt remark upon this ſubject of improving moors, that a more profitable field remains yet to be mentioned; which is the moorſide farms. Mr. *Danby* has ſome thouſands of acres of theſe*, and other gentlemen the ſame. I know not one who hath not very large tracts of moor-land annexed and incloſed, but which remain in the ſame unimproved ſtate

* Among other farms of this ſort, let me inſert the following contiguous ones.

170	Acres.	Rent £. 11
400	- -	65
91	- -	6
300	- -	52
961		134

500 of theſe acres are as good land as any in *England*; and yet almoſt uſeleſs. Mr. *Danby* offered me theſe 961 acres at that rent for any term of years, and with many advantages; were I poſſeſſed of an unappropriated 4000*l.* I would have accepted the offer, with as great a certainty of profit, as pleaſure at the idea of improvement.

as

as the moors themſelves, all the profit of them being the conveniency of the ſheep they feed not rambling at large. Now the improvement of theſe farms would be particularly profitable; as the incloſures and buildings are already done, conſequently, in the above account, the expences would only be paring, and burning, and liming: The very mention of this ſyſtem of improvement is ſufficient; it muſt be obvious to the meaneſt capacity that the profit would be immenſe.

Upon the whole, the improvement of theſe moors would not only yield a prodigious profit clear to the undertaker, but would prove a moſt noble work, conſidered in a national light: It would add vaſtly to the production of food of all kinds, be a very great aſſiſtance to the manufactures that are connected with agriculture, and employ a great number of moſt valuable people; in a word, it would prove a ſource of glory and profit to the undertaker, of riches and population to the publick.

* * *

The very excellent and worthy owner of *Swinton* has made that ſeat one of the pleaſanteſt places in this country; he has ſurrounded the houſe with a moſt beautiful park, finely wooded and watered, and has added plantations and pleaſure-grounds in a ſtile of great propriety and taſte. With much trouble and expence, he brought, ſeveral miles, a ſmall but elegant ſtream through his gardens and park, which in ſome places breaks into very fine lakes, in other contracts into the ſize of a little rill, which winds through the woods in a moſt pleaſing manner: here falling in caſcades, it enlivens the whole ſcene, there withdraws from the eye, and hides itſelf in the dark boſom of tufted groves.

The houſe is very convenient, and elegantly furniſhed: Among other articles, the following pictures merit the moſt attention.

Claud

Claud Loraine. Landſcape, a quay. Very fine. The relief, perſpective and general brilliancy, bold and ſpirited; the light behind the tower, and upon the water, beautiful.

Pouſſin. Landſcape. The general harmony of this piece is good. The trees beautiful, and the colours ſpirited.

Unknown. Landſcape: A thick tuft of trees with figures and cattle. The brilliancy, and glowing expreſſion of the light behind the foliage, very pleaſing.

Ditto. Landſcape, its companion; boys on an aſs, led by another. The expreſſion of the boys fine: The little one behind draws up himſelf in a natural manner. The aſs good.

Ditto. A group of figures, part of them around a table. The attitudes very eaſy and natural, particularly thoſe of the two figures in the foreground: the draperies well done.

Ditto. A ſea-port. The light ſtrong and well reflected.

Unknown. Small landſcape; rocks, trees, and a bridge at a diſtance. On the right the trees are in good taſte, but the other objects want diſtinctneſs.

Ditto. The five Senſes, a group, with emblematical ornaments. Good, but the figures have vulgar countenances: the colouring and the other expreſſion well done; indeed the ornamental part is better than the principal. The lap-dog is very much like a lion, and the beauties diſplayed by the lady in blue not of the moſt *Titian* elegance. The architecture is well executed, and the minute finiſhing of the whole fine.

School of Raphael. The delivery of the keys. Airs of the head good, but the drapery and general effect not pleaſing.

Flemiſh. A boor with a trumpet in his hand: The attitude and expreſſion very natural.

Unknown

Unknown. Small landſcape, a group of horſemen, with cattle driving thro' water. The general effect pleaſing; the horſes are the moſt finiſhed part of the piece; the white one in particular is very fine, and in clear and full relief.

Unknown. A flower-piece. Good.

Holbein. A head. Very fine.

Rembrandt. A *Jewiſh* rabbi, a copy from the famous picture of this maſter. It is an excellent one: The face moſt expreſſively done; the hands good; the turband excellent; the reſt of the drapery and general effect fine and brilliant.

Rubens. An archduke of *Auſtria.* Capital. Exceedingly fine, and ſpirited expreſſion.

Ditto. His archducheſs. Ditto, but inferior to the other.

Lely. Three family portraits. Very pleaſing.

Unknown. Dead game. Very natural.

The roads which branch every way around *Swinton* are admirable, and owing entirely to the generoſity and ſpirit of this gentleman. Through his own territory, which is very extenſive, he makes them at his own expence, and in ſo excellent a manner, as to be ſuperior to moſt turnpikes; but the neighbouring roads he contributes largely to, and bribes the pariſhes to ſeek their own good. By this uncommon ſpirit, he has either made or greatly improved above 20 miles of road; a noble example!

* * *

While at *Swinton*, I took the opportunity to view Mr. *Aiſlabie*'s two famous places, *Hackfall* and *Studley.* They are both ornamented grounds, but in a different ſtile; both fine, and much deſerving the attention of a traveller.

Studley Park is ſituated in the midſt of an agreeable country, about four miles from *Rippon.* The houſe is a very good one, and contains ſeveral ſpacious apartments well fitted up. But the pleaſure-grounds are chiefly conſidered.

The

The firſt object we were ſhewn to, is the banqueting-houſe; a handſome apartment, containing a well proportioned room for dining, and a ſleeping one with a ſofa within a ſcreen of very light elegant carving. In the former is a ſtatue of *Venus* of *Medicis*. At one corner of the lawn *(laid out in form of a coffin)*, in front of this temple ſtands an ionic dome temple in ruins, from which the views are various and pleaſing; there are two of water, partly ſurrounded with wood; another up to a gothic tower, upon a fine riſing ground: A fourth down upon a baſon of water, with a portico on the banks; beſides others.

Advancing up the hill to the right, we came to a bench which looked down upon a double caſcade, one falling to appearance from out a cavern of rock, in a juſt taſte, into a canal, which forms a little beneath you another fall, and then is loſt, to the left, behind wood.

Winding yet further to the right, and croſſing a woody vale, we mounted a little hill, with a tent on the ſummit, in a very pictureſque and agreeable ſituation; for you look down on a fine winding lake, which floats the valley, ſurrounded by a noble bold ſhore of wood riſing from its very banks. In one part of it a green ſeat is ſeen, and an arch in another.

From this hill we were next conducted to *Fountaine*'s abbey, an exceeding fine ruin adjoining, and in ſight of his grounds, lately purchaſed by Mr. *Aiſlabie*. The extent of the building was prodigiouſly great, and many parts of it perfectly complete. The rubbiſh is at preſent clearing away, and all parts of it undergoing a ſearch, that no pavements or other remains of it may continue hid. This work has, I apprehend, rendered it neceſſary to clear away all the rubbiſh from the court; and to lay out that ſpace with more regularity than would otherwiſe have been done; this is the caſe with ſome of the apartments; and likewiſe, I ſuppoſe, occaſions the new fir doors

in

in ſo many of the old arches: theſe circumſtances are at preſent deſtructive of the beauty of the ruin, but when all the diſcoveries are made that are expected, and the building left in that proper ſtate, which a gentleman of Mr. *Aiſlabie*'s taſte will undoubtedly order, it certainly will remain a very noble ruin.

It may not here be impertinent to conſider for a moment what is the juſt ſtile for a ruin to appear in. We generally find them in retired, neglected ſpots, half filled with rubbiſh, and the habitation rather of bats, owls, and wild beaſts, than of man: This horrible wildneſs greatly ſtrengthens the idea raiſed by falling walls, ruined columns, and imperfect arches; both are awful, and impreſs upon the mind a kind of religious melancholy; an effect ſo difficult to raiſe by art, that we ſcarce ever find a modern ruin that, in cauſing ſuch, has the leaſt power.——Ruins generally appear beſt at a diſtance; if you approach them, the effect is weakened, unleſs the acceſs is ſomewhat difficult: And, as to penetrating every part by means of artificial paths, it is a queſtion whether the more you ſee by ſuch means does not proportionably leſſen the general idea of the whole. Looking, as it were, by ſtealth through paſſages that cannot be paſſed, heaps of rubbiſh ſtopping you in one place, broken ſteps preventing both aſcent and deſcent in another; in a word, ſome parts that cannot be ſeen at all, others that are half ſeen; and thoſe fully viewed, broken, rugged, and terrible.——In ſuch the imagination has a free ſpace to range in, and ſketches ruins in idea beyond the boldeſt limits of reality.——Level theſe difficulties, and lay open the hidden receſſes unpervaded by the ſun for ſo many centuries, you at once deſtroy theſe great effects; you leave the fancy no room to magnify; and (if the building be gothic) twenty to one whether a ſingle part in genuine beauty makes amends for ſuch a loſs:——you at beſt view but the ruins of diſtortion, not the remnants of *Grecian* elegance. Theſe reaſons appear to me of ſufficient

cient force to juſtify the leaving a ruin in the wildeſt and moſt melancholy ſtate the ravaging hand of time can have thrown it into. As to *Fountaine*'s abbey, the preſent poſſeſſor has too much taſte to leſſen the effect of one ſo ſpacious; the circumſtances I before hinted were, I then remarked, temporary.

The taſte of an artificial ruin is decided in a moment; it ſhould be an exact imitation of a real one: For this reaſon it ſhould never ſerve a double purpoſe, that of an object, and a banqueting or tea-room; becauſe the contraſt between the out and inſide, is apparently too great and diſſonant. The one is an image of melancholy; the other a temple of feſtivity.

Returning from the abbey, you wind in the valley on the banks of the lake, at the bottom of the tent-hill; the ſpot is exceedingly beautiful; that hill, a cone of riſing wood, is exquiſitely pretty.

From hence the walk riſes upon the edge of the ſurrounding hills, which are covered with wood; and through the trees you catch many obſcure views that are truly pictureſque: You look down thro' them to the right upon the lake, in a moſt pleaſing manner, and catch a beautiful view of the abbey. After this you command a river, winding around the tent-hill, covered with trees, and all incircled by a noble amphitheatre of hanging woods; the river meandering towards the abbey, which is ſeen to infinite advantage.

Your next view is from the green ſeat, where the ſame noble ruin appears in a varied ſituation: You here look down on the water, in front of the tent-hill; and catch to the left, at the top of a range of hanging woods, the arch before mentioned. This view is very fine.

Next we came to the white bench, from which the landſcape is different from any of the preceding; it is a fine hollow of wood. Here are ſeen two ſtatues.

Fur-

Further on, from a bench in a dark walk, an obeliſk in the oppoſite wood is ſeen with a very good effect. This walk leads to the gothic tower, a very neat elegant building, commanding a various and very beautiful view. You look full upon a noble bank of wood, finely diverſified with objects. To the left you ſee a tower, riſing out of hanging wood;—next to that a building, peeping over trees in a pleaſing ſtile; over this the ruined dome temple, in the very point of taſte, moſt exquiſitely ſituated; ſweetly pleaſing and pictureſque.—In another part of the wood, the obeliſk, with a fine front and back-ground of wood. Beſides theſe objects, you ſee, at the ſame time, a ſmall building, almoſt beneath you, on the bank of the lake;——the houſe and plantations adjoining in the park;—the *Roman* monument and *Chineſe* temple, two buildings among other plantations in the park;—a ſmall ſpot in the oppoſite walks, called the *Dial Lawn*—with ſeveral other objects that throw a great variety over the ſcene, and render it upon the whole truly beautiful and pictureſque.

Driving from hence through the park, the riding leads by the edge of a vaſt woody precipice, which bounds a winding valley with a rapid ſtream in it; the views of which, among ſteeps of woods and romantic precipices, have a noble effect. The river forms two caſcades that enliven the ſcenes very beautifully.

Upon the edge of this bank of wood ſtands the *Roman* monument, the model of that erected to the *Horatii* and *Curiatii*; you look down from it, into a winding valley, at a conſiderable depth, through which the river takes its bending courſe; at one end, it is loſt moſt beautifully in the hanging woods; and at the other under a wall of rocks: At your feet it forms another caſcade, which has a fine effect: In front you command hanging woods, which give an air of majeſty to the whole ſcene; and through them, in one place, catch the gothic tower.

Leav-

Leaving this ſpot, which is ſo truly beautiful, the riding leads on the edge of more precipices finely romantic: You look down on the river in the vale below, through the hanging wood, in a noble ſtile. The next point of view is the *Chineſe* temple, which ſtands on a circular projection of the high ground into the valley, which is here ſeen in great perfection; the river winds thro' it, and forms a caſcade: But the principal object from hence is the glorious range of wood, which covers the oppoſite hills, and preſents a magnificence to the eye that is very noble. *Melow's* tower is ſeen at a diſtance upon a hill; and to the right the gothic one, pictureſquely ſituated in ſurrounding woods. Upon the whole, the ſcene from this ſpot is equally beautiful, romantic, and ſublime.

Following the riding through the park from hence towards the houſe, the ſcenes totally change, and that with an effect which is very advantageous; for, loſing theſe rocky ſteeps and hollows of wood, in which the objects are all near, and fully viewed in the bird's-eye, landſcape ſtile, you riſe to the command of a vaſt proſpect of diſtant country. The town of *Rippon* and its minſter is ſeen in the center of a finely cultivated and well peopled vale, ſcattered with villages, houſes and other objects, in a very pleaſing manner. This contraſt cloſes the ſcene, and operates not only from its intrinſic beauty, but from being various to the numerous landſcapes, which, in another ſtile, decorate the country paſſed.

Studley, upon the whole, muſt pleaſe every perſon that views it: The fine deep glens of woods, the winding ſtream falling in caſcades, and ſurrounded with noble amphitheatres of wood; the pictureſque views, at a diſtance of *Fountaine*'s abbey; the principal ſcenes viewed from the gothic tower; the tent-hill vale, and water adjoining, with ſome other touches before deſcribed, are naturally romantic, pictureſque, and beautiful.

Hackfall, ſeven miles from *Studley*, and only two from *Swinton*, is laid out in a different ſtile: Greatly worth the trouble of any traveller's going many miles out of his way to view it.

Entering the woods from *Swinton*, the firſt point of view we came to was a little white building, by way of a ſeat, on the point of a round projecting hill; you look down upon a rapid ſtream, through ſcattered trees which fringe the ſlope; the effect very pictureſque: To the right is an opening among the trees, which lets in a moſt beautiful view of a fine range of hanging woods, which unite to form a gloomy hollow. Behind, through another opening in the adjoining trees, you look upon a fine bend of the river; *Maſſam* ſteeple, and part of the town, appearing over ſome wood that hangs to the water; nothing can be more ſweetly pictureſque; for the ſpot whereon the building ſtands, being ſhaded with trees, and dark, the brightneſs of the ſheet of water has the effect of an elegantly natural clear obſcure, and the buildings ſeeming to riſe from branches of wood hanging on the ſtream, adds greatly to the beauty of the ſcene: A gentleman's white houſe, a little on one ſide, is an object which improves the landſcape.———Another view from this ſpot, is to the left, a fine curve of the river, under a bank of hanging wood, ſcar'd with bare rocks.

From hence the riding winds on the banks of the river, and paſſing a pictureſque dropping ſpring, riſes up ſome ſlopes, to an open octagon bench, from whence the views are truly elegant. To the right you look upon a bold ſhrubby hill, which has an air of grandeur that is ſtriking: There is a building by way of object, raiſed upon it, that is called an arch, or a ruin, almoſt hanging over a dell of wood; the river peeping at one ſpot in a pleaſing manner, and the murmur over the rocks in its bed, fills the ear, and gives room for the imagination to play: Nothing raiſes ſuch ideal pictures as the noiſe of a river foaming

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ing among rocks, but hid by wood; the romantic ſteeps, and torrents, receive a hightening from the fancy, which would be half diſſipated by viewing the reality.———To the left a bend of the river is ſeen fringed with hanging woods; and above them diſtant proſpects.

Winding from this ſpot through the grove, we come next to a ruſtic ſtone temple, by the ſide of a baſon, with the ſtump of a jet d'eau in the middle of it. Is is in a ſmall area, a hollow in the hanging woods, retired, and *naturally* beautiful: A little guſhing fall of water from the bank into the baſon is pictureſque, and worthy of an irriguous meandering courſe, over moſs and pebbles: An opening in the front of this ſpot lets in a view of a ſcar of rock, in the middle of a fine bank of wood.

Walking round the circular lawn, an opening to the left diſplays a moſt glorious hollow of hanging groves, on one ſide of which is ſeen the white ſeat firſt mentioned: This view is very noble.——A little further you catch a prodigious fine rounding hill of wood, and the ſhore of the river, which winds at its feet; it has a magnificent appearance.

Advancing a little further, through a winding walk, you come to a grotto, from which the ſcene is beautifully pictureſque. You look aſlant upon a natural caſcade, which falls in gradual ſheets above 40 feet, in the midſt of a hanging wood; it is quite ſurrounded by the trees, and ſeems to guſh forth by enchantment: The water is clear and tranſparent, and throws a moving luſtre to the eye, inexpreſſiby elegant: For the pictureſque motion of the water, in its fall, pleaſes not only from its genuine beauty, but from the peculiar happineſs of its ſituation, viewed from a woody retired ſpot, wherein the contraſt ſets off each object.

But thoſe touches of reality, which exceed the utmoſt efforts of painting, thicken upon us; for leaving this elegant ſpot, we preſently come to another, from

whence we ſee a moſt beautiful natural caſcade, guſhing, to appearance, out of a cavern in the rock, ſweetly overhung with thick wood, and falling from one bit of rock to another, till it loſes itſelf among the adjoining woods.

From hence you move to a bench, where you are again moſt exquiſitely entertained by the ſame caſcade, viewed in a different direction, with the addition of its trickling at your feet over the graſs, beautifully ſcattered with trees: Through them, in front, a fine opening over a moſt noble hollow of hanging woods. To the right you look down through another opening among the trees, (ſo natural as to give a moſt elegant effect) and catch the river running rapidly over the rocks; moſt exquiſitely pictureſque: Nothing can exceed the taſte, variety, and beauty of this bewitching landſcape.

Following the winding courſe of the walk, we came next to *Fiſher's Hall*, a ſmall octagon room, built of a petrified ſubſtance, upon a beautiful little ſwelling hill, in the middle of a fine romantic hollow, ſurrounded by a vaſt amphitheatre of hanging woods.—This is the outline of the picture, which is in itſelf noble; but the filling up of the canvas adds a colouring more than equal to the pencil of a *Claud:* How, therefore, ſhall I attempt to deſcribe that which painting could not expreſs!——Excuſe the preſumption; and always remember that I do not write to make a diſplay of deſcription, but to induce a friend to fly to that entertainment which I have found ſo pleaſing.

The little hill on which this building is placed, is covered with a thicket of trees, ſo that you view every object by varying your poſition either full, or in obſcura, which makes all pictureſque.——The river gives a noble bend at your feet, imbanked by glorious hanging woods, the white building, firſt mentioned, peeping from among them in one ſpot, and a fine ſcar of rock in another. Under the ſeat, the ſtream is rapid, raging over rocks, and winding away under

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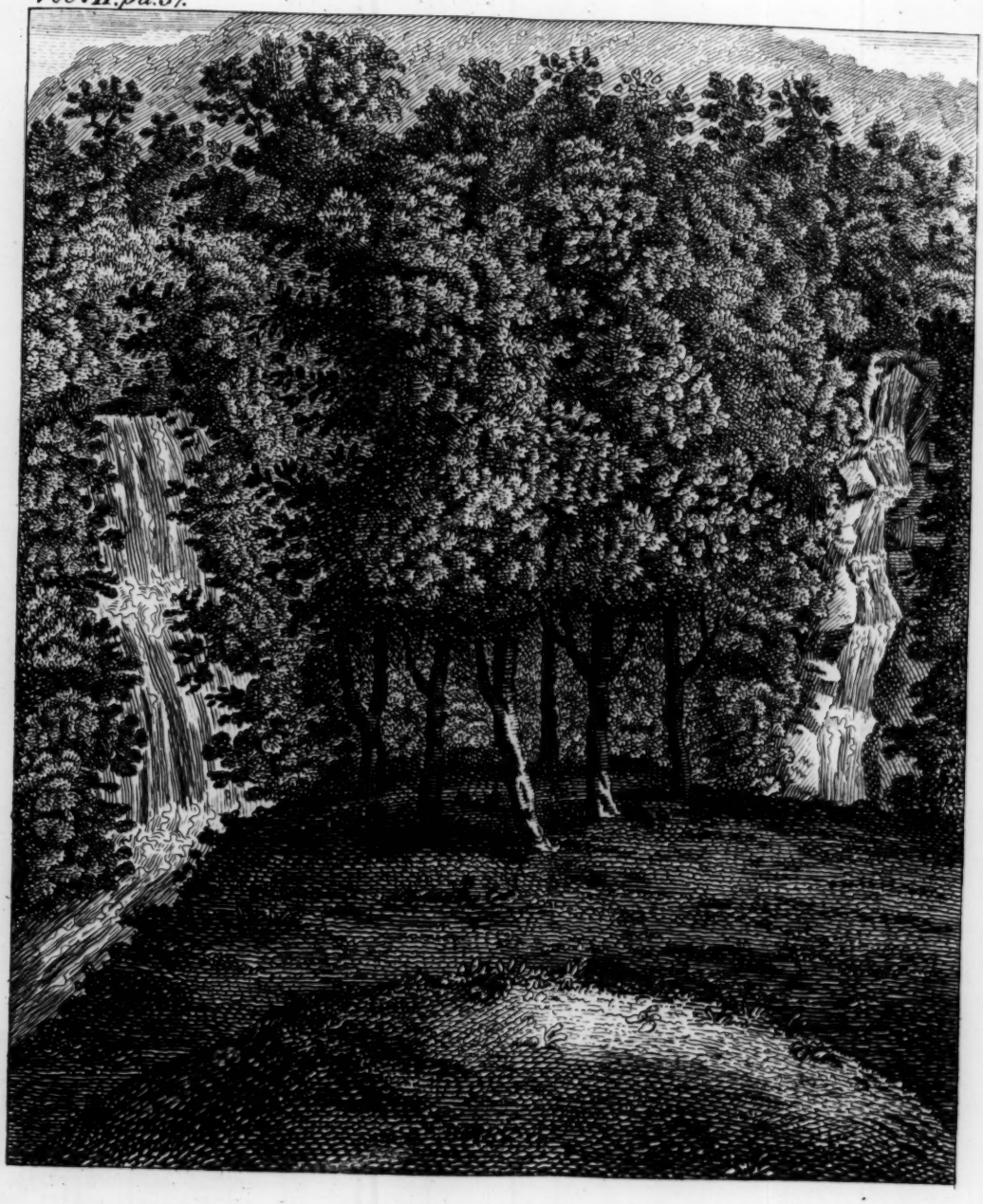


under walls of them, covered with hills of wood; a noble range, magnificently great.—To the right of theſe objects, the other hills appear in a fine ſtile, one in particular covered with ſhrubby wood, projects in a magnificent ſweep that cannot but ſtrike the ſpectator with ſome degree of awe. All the ſurrounding hills appear from hence in very fine waves, rearing their woody tops, one beyond another, in a ſtile truly great.

Beſides theſe objects, which partake ſo much of the ſublime, here are others of the moſt genuine and native beauty. From one ſide of this building, you have a moſt exquiſitely pleaſing landſcape, conſiſting of two caſcades, divided by a projecting grove of trees. That to the right pours down from one cleft of the rock to the other, for a conſiderable ſpace, moſt admirably overhung with the ſpreading branches of the adjoining thick wood, which riſes in noble ſweeps around it, gloomy with the brownneſs of the ſhade, and exquiſitely contraſting the tranſparent brightneſs of the water.

The other caſcade likewiſe falls down an irregular bed of rock, but not in ſuch ſtrong breaks as the former; it is ſeen in the boſom of a fine wood, which fringes a riſing hill, upon the top of which is a building. I attempted a ſlight ſketch of theſe exquiſite caſcades. See plate V.

Winding from this inimitable ſcene down to the river's ſide, and following it, you come to a romantic ſpot under a fine range of impending rocks, with ſhrubby wood growing out of their clefts, and a few goats browzing on their very edges——the effect noble. From hence you look back on the preceding ſcenes, which in general appear like a fine hollow of ſurrounding woods. *Fiſher's Hall*, a beautiful little hill, the building elegantly overhung with a tuft of trees; a moſt happy ſpot.

Purſuing this road a little further (though without the bounds of the ornamented grounds) you riſe with

the hill, and have a noble view of the river broken into three pictureſque ſheets of water, divided by ſcattered woods, and the banks ornamented by a ſtraggling village beyond; between the hills a diſtant proſpect is ſeen; the whole truly beautiful.

Returning, we took the walk that leads by *Fiſher's Hall* and winds up the hill to the left: The firſt point you come to is a bench overhung with trees, from which, at your feet, you look down upon a beautiful caſcade, guſhing out of a rock under a thicket of trees; exquiſite. And to the right, at a little diſtance, another, but different: This ſcene is ſequeſtered, and will naturally tempt the ſpectator to ſtop to admire the mild but pleaſing beauties of the ſpot.

The walk winds from hence up the hill by the ſide of a continued caſcade, the water falling in ſmall ſheets from rock to rock in a moſt agreeable ſtile; on one ſide a thick wood, and on the other a rocky bank, fringed with ſhrubs. This leads to *Kent*'s ſeat, an alcove, from which the landſcape is in the pure ſtile of ornamented nature: If you ſuppoſe art to appear, it is the *ſimplex munditiis* of deſign.—In front, at the diſtance of a few yards, is a double caſcade; the water guſhes from a dark ſpot, half rock, half wood, and falling on a bed of rock, has but a ſhort courſe before it falls a ſecond time into the rill before mentioned, which winds over a bed of ſtone at your feet; theſe parts of the ſcenery are ſurrounded by a little amphitheatre of thick wood, and form upon the whole a moſt beautiful picture; it may not be admired by thoſe who are fond only of *the great*, but to ſuch as are pleaſed with the ſoft tints of nature's pencil—with the mild glow of *Vernet* as well as the majeſty of *Pouſſin*, this landſcape will yield pure enjoyment.—Nor is this all; for turning your eye a little to the left, you catch through a ſmall, and, to appearance, purely natural opening in the trees, a ſweet view of a fine ſcoop of hanging woods; and beyond

yond a diſtant proſpect, one of the moſt complete bird's-eye-landſcapes in the world.

Continuing this walk you mount to the top of the hill, and there arrive at a ſpot called *Mowbray Point*. The building (called the *Ruin*) has a little area before it, from which you command a prodigious proſpect. You look directly down on an exceeding fine winding valley, the river appearing in different ſheets of water, and the roar of its rapidity heard diſtinctly, tho' ſo far beneath. This valley bends round a bold projecting promontory of high land. The hanging banks of which, like all the others, are covered with thick plantations, forming upon the whole a moſt glorious hollow of pendent woods. At the bottom, beſides the river, you ſee *Fiſher's Hall* in a very pictureſque ſituation; and, at the top of the oppoſite projecting hill, a moſt beautiful paſture, ſo truly elegant as to decorate the whole ſcene. The diſtant proſpect has a moſt noble variety; to the right, it is unbounded except by the horizon; in front, you look upon the extent of *Hambledon* hills at the diſtance of about 20 miles; and to the left you have incloſures diſtinctly ſeen for many miles. The whole vale before you is finely ſcattered with towns, villages, churches, ſeats, *&c.* *York-minſter* is ſeen diſtinctly at the diſtance of 40 miles; *Roſebury Topping* in *Cleveland* as far another way. In front you view the ſcar in *Hambledon* hills, called the *White Mare*, the town of *Thirſk* almoſt under it, and *Northallerton* to the right.—In the building are two neatly furniſhed apartments, one for dining, and the other by way of drawing room.

LETTER XII.

IT was not without regret that I took my leave of *Swinton*, and its moſt worthy owner: It is a family in which a polite chearfulneſs and a manly urbanity both pleaſe and inſtruct. I took the road to *Craikhill*, in the neighbourhood of which place lives a gentleman, whoſe experiments and improvements in agriculture merit a particular attention. He was ſo obliging as to give me a very candid and ſenſible account of the huſbandry commonly practiſed in his neighbourhood, as well as the regiſter of his own experience. By firſt inſerting the former, the latter will be the better underſtood.

The ſoil about *Craikhill* is chiefly gravel; lets, the arable at 10*s.* and the graſs at 16*s.* Farms riſe from 20*l.* to 80*l.* a year. Their courſes are,

	1. Turnips	2. Barley	3. Peaſe.
And,	1. Turnips	2. Barley	3. Oats.
Alſo,	1. Fallow	2. Wheat	3. Oats.
Alſo,	1. Fallow	2. Wheat	3. Beans.
Likewiſe,	1. Turnips	2. Wheat	3. Oats.
And,	1. Turnips	2. Wheat	3. Peaſe.
And,	1. Turnips	2. Barley	3. Clover
	4. Wheat.		

The laſt is much the beſt; ſome of the others are however good.

They plough three times for wheat, ſow ten pecks, a week before and a week after *Michaelmas*; and gain upon an average, twenty buſhels. For barley, they ſtir but once, ſow ten pecks or three buſhels, generally between the 5th and 20th of *April*, and reckon the medium crop at three quarters and an half. They give but one ploughing for oats, ſow four buſhels,

buſhels, about the middle of *March*, and gain 30 upon an average.

For peaſe, they likewiſe plough but once, ſow nine pecks, before barley ſowing, and gain 30 buſhels in return.

For turnips they ſtir three times, ſow them about the 22d of *June*, but never hoe; the value they calculate on old land from 45*s.* to 3*l*; but, on new, from 3*l.* to 4*l.* They uſe them for ſheep and fatting beaſts, feed them off with the firſt, but draw and lay them on graſs for the latter: No ſtall feeding. Their defence for not hoeing is certainly of ſome weight,—that the graſiers and butchers would not buy them; a perſon in the neighbourhood who has purchaſed conſiderable quantities even to 600 acres *per annum*, would accept none but the unhoed; he more than once viewed hoed crops, and rejected them, aſſerting that the little turnips would go much farther, by not being ſo liable to waſte and damage.——To anſwer ſuch rubbiſh would be to affront every common underſtanding.——Clover they ſow with barley, and generally mow the firſt crop.

Lime is their principal manure; they lay a chaldron and quarter *per* acre: Coſts 8*s.* per chaldron at the kiln, and the leading at 12*s.* They always break up old graſs, by paring and burning; conſequently that method proves a conſiderable manuring; the expence,

Paring,	—	—	£ 0 13 0
Burning,	—	—	0 5 6
Spreading,	—	—	0 1 6
			£ 1 0 0

They reckon this ſuperior to all other manures. They never chop their ſtubbles; and they feed their hay about the fields; conſequently the farm-yard manure is nothing.

Very good graſs land lets at 20*s.* an acre; they apply it to the three purpoſes of fatting heifers, fatting ſheep,

ſheep, and dairying. An acre and an half will carry a cow through the ſummer. Their breed is the ſhort horned, which they reckon much the beſt both for fatting and milking; ſhort horned cows they aſſert give more milk, but thinner; long horns leſs, but thicker; but ſhort horns univerſally more butter on the ſame keeping.

The product of a cow they reckon at 7*l.* 7*s.* their winter food, hay when milking, and when dry, turnips: of the firſt, two acres: The year's joiſt they reckon at 4*l.* 10*s.* They keep about three or four hogs to ten cows, which is the number commonly aſſigned to a dairy-maid. The calves ſuck from 14 to 28 days.

Their flocks of ſheep are generally from 20 to 80; the profit they calculate at 15*s.* *per* ſheep. The joiſt on turnips is from 2½ *d.* to 3*d.* a week; but 4*d.* in *April* and the firſt week in *May*, on any thing. The average fleece 6 lb.

In their tillage they reckon that five or ſix horſes are neceſſary for the management of 50 acres of arable land; uſe four in a plough, and do at fallowing ¾ths of an acre a day, but afterwards an acre. They give their horſes no oats, except at hard work in the ſpring; reckon the annual expence at 5*l.* The ſummer joiſt from 30*s.* to 40*s.* The time of breaking up the ſtubbles for a fallow varies; for turnips it is done before barley ſowing; but for wheat after. The price *per* acre of ploughing 4*s.* and the depth of ſtirring five inches.

In the hiring and ſtocking of farms, they reckon from 250*l.* to 300*l.* neceſſary for one of 90*l.* a year.

Land ſells at from 35 to 40 years purchaſe. Many ſmall eſtates of 100, 150, or 200 a year.

Tythes both gathered and compounded.

Wheat 4*s.* 6*d.* *per* acre.
Barley, 4*s.*
Oats, 4*s.*
Turnips, 2*s.* in the pound on ſale.

Blendings,

Blendings, or peaſe and beans, 3*s.* 6*d. per* acre.
Hay, 1*s.* 6*d.* to 2*s.*
Poor rates 6*d.* in the pound.

The employment of the poor women and children is chiefly ſpinning of wool; the women earn from 4*d.* to 6*d*; girls ten years old, $3\frac{1}{2}d.$ All drink tea.

The farmers carry their corn from two to five miles.

LABOUR.

In harveſt, 1*s.* a day, and ſmall beer.
In hay-time, ditto.
In winter, 9*d.* or 10*d.* The year round about 10*d.* a day.
Mowing graſs, 1*s.* 6*d. per* acre, and ale and ſmall beer.
Ditching, 3*d.* to 8*d. per* rood.
Head man's wages, 10*l.* to 11*l.* 11*s.*
Next ditto, 8*l.* to 10*l.*
Lad of 10 or 12, 3*l.* 10*s.*
Dairy maids, 4*l.* to 5*l*
Other ditto, 3*l.* to 4*l.*
Women, *per* day, in harveſt, 8*d.* to 1*s.* and ſmall beer.
——— in hay-time, 6*d.* to 8*d.* and ditto.
——— in winter, 5*d.*

IMPLEMENTS, *&c.*

A waggon, 11*l.*
A cart, broad wheels and iron axle tree, 12*l.* to 14*l.*
A plough, 20*s.* to 40*s.*
An ox harrow, 2*l.* 12*s.* 6d.
A horſe ditto, 1*l.*
No rollers.
A ſcythe, 3*s.* 6*d.*
A ſpade, 4*s.*
Laying a ſhare, 4*d.*
Ditto a coulter, 4*d.*
Shoeing, 1*s.* 4*d.*

PROVISIONS, *&c.*

Bread, - - 1 *d. per* lb.
Cheeſe, - - $1\frac{3}{4}$

Butter,

Butter, - - 7½*d.*—22 *oz.*
Beef, - - 3¼
Mutton, - - 3¼
Pork, - - 3½
Milk, - - ½ *per* pint.
Potatoes, - - 4½ *per* peck.
Candles, - - 7
Soap, - - 5
Labourers houſe-rent, 25*s.*
——— firing, 20*s.* but many only breaking hedges.
——— tools, 10*s.*

BUILDING.

Bricks, *per* 1000, 11*s.* Soft woods, 8*d.*
Tiles, 40*s.* A maſon *per* day, 1*s.* 6*d.*
Oak timber, 1*s.* to 1*s.* 6*d.* Carpenter, 1*s* 4*d.* to 1*s.* 6*d.*
Aſh ditto, 8*d.* to 1*s.* 2*d.* Thatcher, 1*s.* and board.
Elm ditto, ditto.
Plaiſtering 1*d.* *per* yard, *per* coat.
Ditto a ceiling, 4*d.* three coats.
A houſe wall, ſeven yards long, and one high, 3*s* 6*d.* laid in lime.
Stone at quarry, 1*s.* a load.
Cart, three horſes and a man at carting, for building for 4*s.* a day.

In the pariſh of *Craikhill.* in the year 1758, were
372 Acres of hay 90 Ditto hard corn
36 Ditto barley 110 Ditto oats, peaſe and beans.
In this pariſh there are likewiſe
87 Horſes 99 Cows 575 Sheep
74 Oxen 74 Young Cattle.
In that of *Watlaſs*, near it, are
57 Horſes 79 Cows 404 Sheep
40 Oxen 25 Young Cattle.

The gentleman's experiments above-mentioned I ſhall arrange under the heads of Tillage, Draining, Manures, Cabbages, and Beans; the minutes he was ſo kind as to favour me with are particularly valuable,

ble, as they were all extracted from memorandums in writing.

TILLAGE.

The capital improvement effected in tillage, conſiſts in trench ploughing. In 1765, he double ploughed 11 acres of land, which let at 7*l.* It was firſt cut by a paring-wheel plough worked by three horſes; then came a ſtrong wheel plough drawn by two oxen and ſix horſes, by which means a depth of 10 inches was gained; and the 11 acres finiſhed in 18 days; a man followed the ploughs to tread down the ſods. Six of theſe 11 acres were ſown with barley, and produced,

	£	s	d
21 quarters 3 buſhels, which ſold for	28	7	0
3½ acres were with turnips, and ſold for	14	6	1
They were fed off with ſheep, and kept 39 for 18 weeks.			
Another acre of turnips was ſold for	4	0	0
Beſides theſe articles, the field produced			
5 buſhels of tares, — —	1	0	0
2½ white peaſe — —	0	10	0
30 buſhels common potatoes, —	3	0	0
9 ditto early, at 3*s.* — —	1	7	0
	£. 52	10	1

Which is *per* acre, 4*l.* 15*s.* 5*d.*

This crop is upon the whole very conſiderable; the land was before ſuppoſed to be very bad, and the rent was trifling; beſides, this ſpecies of improvement has been generally ſuppoſed to operate very little at firſt; the ſourneſs of the under ſtratum of the ſoil requiring ſome time to be ſweetened and ameliorated by the influences of the atmoſphere;—ſo that ſuch a product the firſt crop, muſt be thought a very great one.

In 1766, four acres of this field were ſown with barley, and produced

19 quar-

19 quarters, the price not minuted, let us call it as before, 27*s.* —	£. 25	13	0
6 acres ½ yielded turnips, ſold at	16	10	0
50 buſhels of potatoes at 2*s.* 6*d.* on ½ an acre.	6	5	0
	£. 48	8	0

Which is *per* acre, 4*l.* 8*s.*

In 1767, the field was cropped with maſlin and barley,

4 acres of the firſt produced 92 buſhels, ſold at 4*s.* 6*d.* *per* buſhel —	20	6	0
6 acres of barley produced 29 quarters 5 buſhels at 23*s.* — —	34	1	2
One acre not ſowed.			
	£. 54	7	2

Which is *per* acre, 5*l.* 8*s.* 8*d.*

This experiment which is peculiarly valuable, proves in the ſtrongeſt manner the excellency of the practice; here are three ſucceſſive crops, all great, upon land which before was thought very meanly of, and worked in a manner quite contrary to the common practice: If the reſult of three years experience does not ſatisfy the moſt cautious of cultivators, I know not what can.

In 1766, this gentleman trench-ploughed, in the ſame manner as before, another field of five acres, and harrowed in oats on one part of it, and beans on the reſt; the crop was

167 buſhels of oats, at 2*s.* 6*d.*	£. 20	17	6
28 buſhels of beans, at 3*s.* 6*d.* —	5	12	0
	£. 26	9	6

Which is *per* acre, 5*l.* 5*s.* 10*d.*

I relate theſe two experiments with peculiar ſatisfaction: The practice has been often recommended in books of huſbandry, but I never yet met with a ſingle

ſingle experiment that was ſatisfactory, ſo that the real truth of the matter was before totally unknown; —for ſo I conſider all points of huſbandry that are treated in the inſtructive mode of writing, unleſs verified by previous experiments.

DRAINING.

In 1769, this very accurate cultivator cut open drains through a car of peat-earth; he then pared and burned it, ploughed it once, and harrowed in oats, the crop was 65 buſhels, which ſold at 2*s.* 6*d. per* buſhel; with the oats graſs ſeeds were ſown, and it has been a very good paſture ever ſince.

In 1767, twenty-ſix roods of covered drains were cut in a cold, wet, ſpringy clay field. The dimenſions, a yard deep, ſix inches wide at bottom, and as narrow at top as would permit a man to dig them; they were then filled 18 inches deep with ſtones picked off the land. The expence,

Cutting the drains and filling up, *per* rood, — — —	£. 0	0	6
Gathering the ſtones and leading, .	0	10	0
	£. 0	10	6

In 1767, this field would not bear oats; but this year it is covered with the beſt barley on the farm.

MANURES.

Two acres of wheat were harrowed the 16th of *April*, after ſowing 20 buſhels of coal-aſhes over them: The improvement was very conſiderable and obvious, on compariſon with the reſt of the field.

CABBAGES.

This gentleman's experiments on cabbages are various; they contain ſome very uſeful hints, and particularly reſpecting the expence of cultivation and the quantity eat by cattle.

1764—From the 20th of *May*, to the 20th of *Auguſt* five acres coſt, in planting, manuring, horſe, and hand-hoeing, 2*l.* 5*s.* 7*d.* or 9*s.* 1*d. per* acre.

This

This year a cow of 50 ſtone was found to eat 12 ſtone of cabbages *per diem.*

Two rows kept, in a ſtorm of ſnow in *January*, the following cattle three weeks:

3 Milch cows 22 Year old lambs 3 Yearlings, all in one field without any hay; the rows contained 481 ſquare yards, and 309 cabbages One of the cows had newly calved; and the other was to calve at *Lady-day:* They produced in a week 11 lb. 18 ounces of butter, at 24 ounces to the pound, or 16 ounces to the pound, 17 lb. 10 ounces. A vaſt quantity for two cows, one almoſt dry; and ſhews in the ſtrongeſt manner the excellency of this food for milch cows —But beſides theſe cattle, a fat cow, a tup, and 18 ewes, had ſome cabbages every day: At reaſonable prices, the above 481 ſquare yards produced as follows in money:

3 milch cows, 3 weeks at 2*s.* 6*d.* -	£ 1	2	6
22 year old lambs at 4*d.* - -	1	2	0
3 yearlings at 1*s.* 6*d.* - -	0	13	6
Suppoſe the other cattle eat to the amount of	0	10	0
Which is very moderate.			
	£ 3	8	0

Which is *per* acre, 34*l* 4*s.*

This is a noble produce, and a freſh proof of the vaſt profit of cultivating this moſt uſeful vegetable.

The ſame year one acre of cabbages fed the following cattle nine weeks:

3 Milch cows 1 Fat ditto 3 Yearlings
22 Year old lambs 19 Ewes.

This product amounts in money to the following ſum

3 Milch cows 9 weeks, at 2*s.* 6*d.*	£ 3	7	6
1 Ditto fat, at ditto, - -	1	2	6
3 Yearlings, at 1*s.* 6*d.* - -	2	0	6
	£ 6	10	6

Brought

Brought over - -	6	10	6
22 Lambs, at 4*d.* - -	3	6	0
19 Ewes, at 6*d.* - -	4	5	6
	*£ 14	2	0

This produce is very conſiderable; and yet more ſo, when I add that this acre was one of the worſt.

1765.—This year 20 acres of cabbages were cultivated; the crop was very fine; but particular minutes were not taken.

1766.—This year the ſeed was ſown the 28th of *February* for four acres and an half, the planting, manuring, horſe, and hand-hoeing of which coſt 4*l.* 7*s.* And this year the ſame expences on the two other acres amounted to 1*l.* 18*s.* 4*d.*

1767.—Two acres this year were planted. *Nov.* 16th, two beaſts, two years and an half old were put to them, and four ſheep. Three oxen the 24th of *December* that coſt 41*l.* 9*s.* 6*d.* and two more ſheep. Theſe cattle were all maintained on 1½ acre cabbages, the other half being applied to other uſes, till the 5th of *February*.

PRODUCE.

Keeping 2 beaſts 11 weeks and an half, at 2*s.* 6*d.* - - - -	£ 2	17	6
Ditto 4 ſheep, ditto at 6*d.* - -	1	3	0
Ditto 3 oxen 6 weeks, at 3*s.* 6*d.* -	3	3	0
Ditto 2 ſheep, at 6*d.* - -	0	6	0
	£ 7	9	6

Which is *per* acre, 4*l.* 19*s.* 8*d.*

Upon the whole, there is the greateſt reaſon from theſe experiments to conclude, that the culture of

* Theſe prices are very moderate. It muſt always be conſidered, that the cabbages come into uſe at the moſt valuable of all times, that is, when turnips are rotten and done: I do not think I ſhould exaggerate, if I was to double the turnip prices for cabbages.—The extravagant price of turnips muſt be remembered.

cabbages is of the utmoſt conſequence, and cannot be too much purſued, the average product of the preceding crops is very great; as follows,

Experiment, N° 1	- -	£ 34	4 0
2	- -	14	2 0
3	- -	4	19 8
Product of 3 acres,		£ 53	5 8
Which is *per* acre, 17*l.* 15*s.* 2*d.*			

BEANS.

Three acres drilled in double rows one foot aſunder, with four feet intervals; horſe-hoed between the rows, produced 75 buſhels; which were ſold at 4*s.* *per* buſhel. This is 25 buſhels *per* acre.

This gentleman has invented a machine for cutting mole-hills, which, with two horſes, one man and a boy, will work againſt 12 men in the common way. A very fine contrivance.

Too much praiſe cannot be given this very accurate cultivator, for the judicious plan upon which he deſigned his experiments; and for the attention to minuting the reſult, without any idea of their publication; had he thought of their being laid before the public, they would of courſe have been more numerous; but I muſt add, not more exact.

I am alſo indebted to him for a view of the improvements on moor-land of the Rev. Mr. *Dalton* of *Hawkſwell*, in the neighbourhood of *Craikhill*.

That gentleman incloſed 200 acres out of a moor, which was unlet to any tenant, being ſo very bad, that no farmer would have any thing to do with it. The walling coſt 8*s.* 6*d.* *per* rood; the raiſing them cleared all the ſtones from off moſt of the land; but in ſome very ſtoney parts, the finiſhing that work, after the walls were built, coſt 10*s.* *per* acre.

The next buſineſs was the paring and burning, which was performed in more ways than one; both the black earth and the white, or better ſort, were pared and burned in the common method, that is by hand,

hand, and alſo ploughed, and the turfs burned; in ſome fields the black earth was ploughed four inches deep before winter, and the furrows burned in the ſpring.

Another method followed by this gentleman, which has anſwered very well, is, firſt to burn the ling, then plough it in the ſpring, and let it lie all ſummer: In autumn to plough it acroſs, and harrow it. In the following ſpring it is harrowed well, and all the clods and turfs gathered and burned; the aſhes ſpread; the ground then ploughed and ſown with turnips, which are worth 50*s. per* acre; theſe are fed off with ſheep; and the land ſown with big turnips, of which the crop varies from two to four quarters *per* acre.

Paring and burning in the common method coſts, *per* acre,

Paring,	-	-	£ 0 18 0
Burning,	-	-	0 5 0
Spreading,	-	-	0 1 0
			£ 1 4 0

Lime is ſpread with the aſhes in every way; the quantity various.

With the firſt crop of ſpring corn the land is laid down to graſs. The ſpecies ſown are burnet, red honey-ſuckle, white clover 4 lb. rib graſs 6 lb. ray graſs half a buſhel. He has tried both with, and without corn; but little difference in the graſs. I viewed a field, part of it laid down in this manner, and part of it with dwarf pea, gathered by hand; but there was no compariſon between them, the former better ſix to one.

In theſe methods of improvement, the graſs becomes worth 10*s. per* acre the firſt year; and there is no doubt but the value will annually improve.

This inſtance of the cultivation of a waſte tract reputed barren, is ſatisfactory, and does great honour to the gentleman who has undertaken it. Such ſpirited attempts cannot be commended in terms ade-

quate to their merit: So many millions of acres of moors as remain waſte, and of no value in a trading and manufacturing country, ſo rich and populous as this, and in a period that abounds ſo much with complaints of the dearneſs of proviſions, ought to be conſidered as ſo many nuiſances;—their exiſtence is a continual diſhonour to all their poſſeſſors.—What praiſe is therefore merited by the noble FEW, who have the ſpirit to act in a different manner!

Leaving *Craikhill*, my next route was to *Slening-ford*, the ſeat of ——— *Dalton*, Eſq; who was ſo obliging as to favour me with the following minutes.

The ſoil about that place is a ſhallow loam on a limeſtone. The arable lets at 6*s*. and the graſs at 9*s*. average about 8*s*.

Farms are in general from 60*l*. to 80*l*. The courſes,

1. Fallow 2. Wheat 3. Oats.
And, 1. Fallow 2. Wheat 3. Barley.

For wheat, they plough four times, ſow nine pecks, the time between *Michaelmas* and *Martinmas*, and reap upon an average 15 buſhels. They plough twice for barley, ſow 10 pecks between *Lady-day* and *May-day*; the average produce two quarters and an half. For oats they plough but once, ſow four buſhels before barley ſowing, and gain about three quarters in return. They likewiſe give but one earth for peaſe, ſow three buſhels before oat ſowing, and gain upon a medium, a quarter and an half. Maſlin they manage in the ſame manner as wheat, mix a peck of rye with a buſhel of wheat: They have of late diſcovered an improvement, which has been attended with infinite advantages: It is the ſowing their wheat and maſlin on the lime-ſtone land in *March*: They do not find a fortnight difference in the ripening between an autumnal and a ſpring ſowing; But the crop of the latter is much the beſt; they get 15 ſtooks, where they uſed to have but 12.

They

They plough four times for turnips, never hoe them; and reckon the mean value *per* acre 35*s*. They feed them off the land with ſheep, but draw them for beaſts, throwing them upon a graſs field.

Clover they ſometimes ſow with barley, but the crops are poor ones; not accounted more than 30*s*. an acre; wheat they ſow after it.

Their manuring is very trifling; for they have nothing deſerving the name of a farm-yard; never chop their ſtubbles, and feed their hay in the fields. They pare and burn the land they break up; the expence,

Paring,	- -	£ 0	10 0
Burning,	- -	0	11 0
Spreading,	- -	0	1 6
		£ 1	2 6

None fold ſheep, except Mr. *Dalton*.

Good graſs will let for 20*s*. an acre; they uſe it chiefly for dairying, and reckon 2½ acres neceſſary for ſummering a cow. They never manure it. Their breed of cattle is the ſhort horned, holding the long in much contempt. The annual product of a cow, they reckon at 6*l*. but the profit at no more than 40*s*. Four gallons of milk the common quantity *per* day. They keep about a pig to every cow. Their winter food is hay alone, of which they eat as much as grows on four acres. The calves for rearing ſuck ten days, for the butcher a month. A dairy-maid they reckon can manage ſeven cows; 3*l*. is the joiſt in winter, and 1*l*. 1*s*. in ſummer. They winter them in the field.

Their ſwine fat to 20 ſtone.

They keep but few ſheep, about 20 or 30, reckon the profit at 15*s*. a head. The joiſt on turnips 3*d*. a week: in *April* worth 6*d*. The average fleece is 4½ lb.

In their tillage, they reckon four horſes neceſſary for 50 acres of arable land, uſe three in a plough, which do an acre a day. The ſummer joiſt of a horſe

is 30*s.*; and the annual expence they calculate at 5*l.* The price of ploughing is 4*s.* an acre; they go four inches deep. The time of breaking up ſtubbles for a fallow is after barley ſowing.

They know nothing of chopping ſtraw into chaff.

The hire of a cart, three horſes, and driver, is 5*s.* a day.

In the hiring of farms they reckon 300*l.* neceſſary for one of 100*l.* a year.

Land ſells from 35 to 40 years purchaſe. There are ſcarce any little eſtates of 1, 2, 3 or 400*l.* a year.

Tythes are taken in kind.

Poor rates 1*s.* in the pound. The employment, ſpinning worſted, at which a woman earns 5*d.* a day, and a girl of 12 years old 4*d.* Very few drink tea.

The farmers carry their corn five miles.

The general œconomy will be ſeen from the following particulars of farms.

	178	Acres in all	6 Young cattle
	50	Arable	50 Sheep
	128	Graſs	1 Man
£	84	Rent	2 Maids
	4	Horſes	1 Labourer
	14	Cows	1 Plough
	4	Fatting beaſts	2 Carts.
Another,	69	Acres in all	3 Young cattle
	18	Arable	30 Sheep
	51	Graſs	1 Man
£	31	Rent	1 Plough
	3	Horſes	1 Cart.
	7	Cows	
Another,	56	Acres in all	6 Young cattle
	20	Arable	20 Sheep
	36	Graſs	1 Boy
£	26	Rent	1 Plough
	3	Horſes	1 Cart.
	5	Cows.	

LABOUR.

In harveſt, 1*s.* and milk.
In hay time, 1*s.* A mower, 1*s.* 6*d.*
In winter, 9*d.*
Mowing graſs, 2*s.*
Hedging, 3*d.* a rood.
Threſhing wheat, 2 ½*d.* a buſhel.
Threſhing barley, 1*s.* 3*d. per* quarter.
Head man's wages, 12*l.*
Next ditto ——— 9*l.*
Boy of 10 or 12 years, 4*l.* 10*s.*
A dairy maid, 5*l.*
Other ditto, 4*l.*
Women *per* day in harveſt, 10*d.*
In hay time, 6*d.*
In winter, 6*d.*

IMPLEMENTS, *&c.*

Very few waggons; the price, 13*l.*
A cart, 8*l.*
A plough, 30*s.*
A harrow, 20*s.*
No rollers.
A ſcythe, 4*s.*
A ſpade, 4*s.* 6*d.*
Shoeing, 1*s.* 4*d.*

PROVISIONS, *&c.*

Bread, - - 1*d.*
Cheeſe, - - 2
Butter, - - 7 ——— 22 ounces.
Beef, - - 3
Mutton, - - 3
Pork, - - 3½
Milk, - - ½*d. per* quart ſkim.
Potatoes - 4*d.*
Candles, - 6
Soap, - 6

Labourer's houſe rent, 15*s.*
——— firing; ——— ſteal it all.
——— tools, 5*s.*

BUILDING.

Bricks 15*s. per* 1000. Aſh, 10*d.*
Oak timber, 1*s.* 8*d.* to 2*s.* Elm, ditto.
Maſon *per* day, 1*s.* 8*d.* Carpenter, ditto.
Thatcher, 1*s.* and board.
Stone walling, 3*s.* 6*d.* a rood, of 7 yards long, and 1 high.
Slating, 35*s.* a rood at quarry; workmanſhip, 20*s.*
Farm houſes of ſtone and ſlate.

Upon the whole, the huſbandry of this country, is a ſyſtem of indolence and poverty: Their management wretched, and their crops proportioned; the cheapneſs of labour ought to occaſion a little ſpirit in their culture. It reſts upon Captain *Dalton*, to kindle new ideas among them; and the following ſketch will ſhew, that no one is better able.

That gentleman's huſbandry is new, and conducted upon excellent principles. His courſe is,

1. Potatoes.
2. Barley
3. Clover, ray graſs, and trefoil, eat off with ſheep one year.
4. Wheat on one earth.

He has tried peaſe after the wheat, but apprehends it to be a faulty cuſtom. The wheat in this courſe is fine; he gets 20 buſhels an acre upon land that never yielded 12 before. The barley is likewiſe very good; a quarter *per* acre, more than the farmers ever get after turnips.——The potatoes are managed as follows.

The wheat ſtubble is ploughed up in *October*; the beginning of *March*, it is ſtirred again; at *Lady-day*, harrowed with heavy harrows. Then drills are made with a common plough, 4 inches deep, the diſtance

various

various in different fields, from 18 inches to three feet, for the ſake of experimentally knowing the beſt; but chiefly three feet. The potatoe ſets are then dropt in whole, never ſliced, but picked, ſuch as are ſomewhat larger than a pigeon's egg. Then they are covered with dung, 10 cart loads (25 buſhels each) *per* acre; the more rotten, the better the crop: After this, the plough covers them. When they appear in rows, the ridges are harrowed down; and in that ſtate they are left till recovered. When the weeds begin to riſe, the ſpaces between the rows are horſehoed with a common plough. And thoſe that come among the plants cut up with ſmall hand-hoes. They are ploughed up about the middle of *October*, and the product, upon an average of ſeveral years, 150 buſhels *per* acre. Among other ſpots planted with potatoes, the following Mr. *Dalton* attended particularly to.

1763.

One rood upon limeſtone land, planted with four buſhels, in rows 18 inches aſunder, and one foot from plant to plant in the rows, well horſe and hand hoed, produced 70 buſhels; that is, *per* acre, 280 buſhels.

1764.

One acre upon the ſame ſoil as the preceding experiment, and managed in the ſame manner, produced 260 buſhels.

1765.

Two acres upon the ſame ſoil, planted, cultivated and taken up as before, produced each 280 buſhels.

1766.

Two acres this year, managed in every reſpect as before, produced 270 buſhels *per* acre.

1767.

Three acres in rows three feet aſunder, and the plants one foot, horſe and hand-hoed as before, yielded 300 buſhels of picked potatoes, and 50 buſhels of ſmall ones.

One

One year Mr. *Dalton* had in the ſame field two crops, one of cabbages, the other of potatoes; both of them were equally manured. The whole was ſown with barley the next year, which proved better by a quarter *per* acre, after the potatoes than after the cabbages.

One of this gentleman's tenants planted an acre of potatoes in the middle of a field fallowed for turnips. All was dunged, and the turnips fed off by ſheep. The whole was ſown with oats; which crop was better after the potatoes, by nine buſhels *per* acre, than after the turnips.

Theſe two experiments are both very ſatisfactory, and prove ſtrongly the great ameliorating nature of this moſt uſeful root. To exceed turnips manured, and fed off with ſheep, as a preparation for ſpring corn, is a circumſtance greatly favourable; but then it ſhould be remembered, that the farmers do not hoe their turnips.

Cabbages, this ingenious huſbandman has tried more than once. In 1766, he had two acres of the large *Scotch* ſort, upon his limeſtone land, well dunged; they were planted the beginning of *June*, in rows four feet aſunder, and 22 inches from plant to plant. The average weight *per* cabbage was 4lb. They were given to cows, and made the butter abſolutely ſtink; but he apprehends it owing to the decayed leaves not being taken off.

The next year he had another acre managed in all reſpects as before, except the manure, which was lime and dung mixed. The crop a very poor one, not above 1 lb. a piece upon an average. They were fed off with ſheep.

In 1766, he cultivated the turnip cabbage; he ſowed them in the ſpring, and planted out about 1500 plants on to about a rood of limeſtone land; at the end of *May*, they were well horſe, and hand-hoed, and weighed about 5lb. each on an average; they were given

given to ſheep the middle of *April*, and found to be exceedingly fond of them.

This gentleman has likewiſe cultivated the artificial graſſes with attention. In 1764, he ſowed 12 acres of ſainfoine upon his ſhallow limeſtone land, it was ſown alone after turnips, and, when up, carefully weeded. It has laſted ever ſince, mowed every year once, and has produced as much hay conſtantly, on every acre, as any three of natural graſs in the neighbourhood. He gives it to horſes. In 1767, he took ſome cows from natural graſs hay to that of ſainfoine, but they did not milk ſo well.

Another acre he ſowed upon the ſame land, but it coming up thin, he ſowed, the year after, half a buſhel of ray-graſs over it; and it has ſince continued very good, but not equal to the other.

Lucerne he alſo tried. In 1765, he ſowed a piece in equally diſtant drills, ſix inches aſunder on a ſhallow limeſtone; he mowed it three times that year, the growths high, but not thick. In 1766, he alſo cut it three times; and again the ſame in 1767, when he manured it, half with aſhes and half with dung, but it proved much the beſt after the aſhes: It has ſince continued good, but upon the whole, not comparable to ſainfoine nor equal to clover.

Burnet he ſowed in 1767, with five acres of barley, 20lb. of ſeed *per* acre. The barley yielded four quarters *per* acre. The burnet was fed down by 40 ſheep, for more than three weeks in *April* laſt, after which it ſtood for hay; and yielded a large cart load *per* acre; the hay very good, and eat freely by the cattle. I viewed the field, and had no doubt of its proving a very profitable crop; and that it will be a moſt excellent paſturage for ſheep in the ſpring.

Mr. *Dalton*'s method of laying land down to graſs is (contrary to common management) to lay the ground quite ſmooth, and then ſow upon every acre,

6 buſhels of hay ſeeds.	8lb. white clover.
12lb. of rib graſs.	5lb. burnet.

He

He manures it well with a compoſt of earth, dung and aſhes well mixed together, and alſo folds his ſheep on it two nights in a place, which he finds to anſwer prodigiouſly.

His old hide bound moſſy land he tried, in 1763, to cure by means of a ſcarificator, or five-coultered plough, he tried it by ploughing ſome and leaving ſome on long lands.

No. 1. He ploughed.
2. Not touched.
3. Ploughed and manured.
4. Manured but not ploughed.

The reſult was,

No. 4. The beſt.
3. The next.
2. The next.
1. The worſt.

From which he concludes, that, upon his ſoil, the practice is by no means beneficial.

Upon the whole, the public is much obliged to this ſpirited cultivator for the attention he has given to huſbandry. The above experiments ſhew that he is judicious in his plans, and correct in their execution.

Here you muſt allow me to conclude this letter, by aſſuring you how much I am, *&c.*

LETTER

LETTER XIII.

I Returned to *Richmond*, by the way of *Danby*, the ſeat of *Simon Scroope*, Eſq; one of the moſt accurate cultivators I have any where had the ſatisfaction of meeting with: His experiments are truly valuable, but I ſhall not attempt their eulogy, being too genuine in the minutes, and deſigned with too much penetration to need any recommendation from me. I preſent them to the public with the utmoſt pleaſure.

The firſt article of this ſpirited cultivator's trials is cabbages.

1759.

This year's experiments may be called preparatory ones, as they conſiſted in compariſons between the different ſorts of cabbages. Many trials were made on

The *Scotch*, The *Batterſea*, and
Ruſſia, Red cabbage.

The firſt was by much the beſt, and the red cabbege next. The *Ruſſia* was larger than any, but did not ſtand the winter well.

He likewiſe tried a rood of *Savoys*, upon a loamy ſoil, in rows four feet aſunder by one in the rows: They were horſe-hoed as the other crops; they came to about 5lb. wt. at an average; the cattle liked them very well, but the plants would not ſtand the winter. ——They are good for nothing.

The *Anjou* grew to the heighth of ſeven feet; he plucked the leaves off, which the cattle eat freely:— But it will by no means anſwer. It is an annual.

1761.

This was the firſt year Mr. *Scroope* planted this vegetable as food for cattle. The quantity of land, one acre and three roods; the ſoil a good ſandy loam, worth 15*s*. *per* acre, and manured at the rate of 20 loads

loads of good rich dung, and a chaldron and half of lime *per* acre. The field was winter-fallowed.

The cabbage was the large *Scotch* ſort, and the ſeed ſown in *February*; planted directly from the bed into the field the 29th and 30th of *May*, in rows four feet aſunder, and three feet from plant to plant. The firſt horſe-hoeing was given the 2d of *June*, and a hand-hoeing directly after. The 3d and 5th of *July*, the earth was drawn with hand-hoes up to the roots of the cabbages. *Auguſt* 10th, they were horſe hoed again, and hand-hoed ſoon after.

The 30th of *November*, they were began to be cut for continuing the fatting of five beaſts then taken from graſs, and 10 ſheep; three of the beaſts weighed 100 ſtone 14lb. each, and the ſheep ſold at 38*l.* a ſcore. One of the beaſts was killed the 22d of *December*, the other four were kept till the firſt of *March*, and likewiſe the ſheep.

The cabbages were cut regularly as they ſtood (not picked), and given to the cattle upon a dry graſs-field: Nothing could thrive better; two of the ſheep were killed for trial, the mutton excellent, and perfectly well taſted. The beef alſo was extremely fine, and had no particular taſte. It appeared very plain to Mr. *Scroope* and all his huſbandmen, that the cabbages were a much ſuperior food to turnips; as he had 20 other ſheep, of the ſame age and breed, at turnips, while the above-mentioned 10 were at cabbages; and the latter evidently came on much faſter than the former. The keeping the ſheep at cabbages reckoned worth 8*d.* a head *per* week, the oxen 3*s.* 6*d.* a week.

Product.

Fatting 1 ox 3 weeks, at 3*s.* 6*d.*	£.	0	10 6
Ditto 4 oxen, 3 months, -		8	8 0
Ditto 10 ſheep 3 months, at 8*d.*		4	0 0
	£.	12	18 6

Which is *per* acre, 7*l.* 7*s.* 8*d.*

1763.

1763.

The next experiment was on a field of four acres, the ſoil a cold clayey loam, with clay and gravel under it; rent 12*s.* *per* acre. It was well winter fallowed, and before planting manured with a compoſt of lime, virgin-earth, and ſtable-dung, mixed thrice together, 15 loads *per* acre, 22 buſhels *per* load.

The ſeed was ſown as before in the ſpring, and planted directly into the field the 4th, 6th, 7th and 8th of *June*, in rows four feet aſunder, and 22 inches from plant to plant. *July* 7th and 8th the firſt horſe-hoeing was given, and a hand hoeing directly after; but was ſtopped the 24th by rain; the weather very ſhowery. After this it was horſe-hoed twice more.

December 29th, they were began to be cut for

6 Large oxen 4 Calves 12 Sheep.

In *January*, many of the cabbages were weighed; the average weight 13lb. and on an acre 33 tons, 15 Cwt.

February 3d, 31 ewes added to them.

All finiſhed the 10th of *April*. The value of the keeping the beaſts, 3*s.* 6*d.* a week, the calves 1*s.* 4*d.* and the ſheep 8*d.*

Product.

		£.		
Fatting 6 oxen 14 weeks, at 3*s.* 6*d.*	£.	14	14	0
Keeping 4 calves 14 weeks, at 1*s.* 4*d.*		3	14	8
Fatting 12 ſheep, 14 weeks, at 8*d.*		5	12	0
Keeping 31 ewes 9 weeks, at 8*d.*	—	9	6	0
	£.	33	6	8

Which is *per* acre, 8*l.* 6*s.* 8*d.*

No cattle could thrive better than the above; the oxen fatted extremely faſt, as did the 12 ſheep; the calves were in excellent condition; and the ewes never better, the lambs healthy and good, and not one loſt through the ſeaſon.———Barley ſucceeded, and though the land is not at all favourable to that grain, yet the crop was great.

1764.

1764.

This year Mr. *Scroope* extended the culture to eight acres two roods, the land a good loam, worth 15*s.* an acre. It was ploughed, for the firſt time, the beginning of *March*: and, the ſecond time, the end of *April*, from angle to angle. The firſt week in *May*, two chaldrons *per* acre of lime were harrowed in with ox-harrows, horſe ones following. Between the 5th and 15th it was ploughed again from oppoſite angles, and harrowed again. *May* 22d began manuring, 12 loads *per* acre. The 25th, ploughed it into four feet beds, and planted a row on each, 22 inches from plant to plant: The ſeed ſown as before in the ſpring, and taken from the bed directly into the field; this work was finiſhed the 2d of *June*.

July 10th, the firſt horſe-hoeing was given, and then a hand-hoeing. *Auguſt* 4th, they were horſe-hoed again, and the 17th hand-hoed. *December* 21ſt began to cut them for

	6 Fat Oxen	20 Sheep.	
The 24th added,	3 Oxen	8 Sheep.	
January 12th,	2 Oxen	3 Sheep	30 Head of deer.
——— 19th,	8 Oxen	33 Sheep	3 Calves.
February 12th,	32 Sheep.		

April 1ſt, 8 oxen ſold off, and the 20th, all done. The price of keeping oxen, 3*s.* 6*d.* Sheep, 8*d.* Calves, 1*s.* 4*d.* Deer, 8*d.*

Product.

Fatting 6 oxen, 14 weeks, at 3*s.* 6*d.*		£.	14	14 0
2 oxen 13 weeks and an half, at 3*s.* 6*d.*			4	14 6
1 ox 17 weeks,	—		2	19 6
2 oxen 14 ditto,	—		4	18 0
8 ditto 13 ditto,	—		11	4 0
20 ſheep 17 weeks,	—		11	6 8
8 ditto 16½ ditto,	—	—	4	8 0
3 ditto, 14 ditto,	—		1	8 0
Carry over,		£.	55	12 8

Brought

	Brought over,	£.	55	12	8
30 deer, 14 weeks,	—		14	0	0
33 ſheep, 13 ditto,	— —		14	6	0
3 calves, 13 ditto,	— —		2	12	0
32 ſheep, 10 ditto,	— —		10	13	0
		£.	97	3	8

Which is *per* acre, 11*l.* 8*s.* 8*d.*

It was found this year, upon trial, that an ox of 100 ſtone eat 12 ſtone of cabbages, and half a ſtone of hay, in 24 hours.

1765.

Eight acres of the ſame field were again planted this year. Ploughed *May* 8th. Limed three acres of it the 22d, 23d, and 24th, a chaldron and an half *per* acre, and harrowed it in. The 28th began to plant, and finiſhed the 3d of *June*. The 20th of that month, the places of ſeveral that had miſſed were filled up. It was an extreme dry ſeaſon, and a grub had alſo attacked the roots of the plants; all that looked yellow had a grub. *July* 17th, they were horſe-hoed; the weather ſtill a drought. The 25th, finiſhed the horſe, and hand hoeing. The drought continued until the 27th of *September*. *October* 2d, heavy rains; the cabbages looked well, but backward. In general, they ſucceeded better than turnips.

A minute of expence this year, *per* acre.

Horſe-hoeing, 1 horſe, and 1 man each time,		£.	0	1	6
Hand-hoeing, ditto,	—		0	2	0
Planting,	— —		0	2	6
			0	6	0

December 11th, 6 Oxen 4 Calves
1 Cow 10 Sheep

were put to cabbages; and 11 rows marked out for them, as there were 11 rows of horſe-hoed turnips adjoining. Finiſhed *January* the 6th. At the ſame

time, the ſame number of the ſame cattle were put to the 11 rows of turnips. Mr. *Scroope* did not minute the exact reſult; his words are, "Cabbages beſt beyond all compariſon; four to one."

January 24th, added 28 ſheep.

February 12th, ſnow for four days, three quarters of a yard deep on the level. Cattle at turnips forced to be put to hay, but thoſe at cabbages were regularly fed through it.

February 20th, added 33 ſheep.

March 20th, all finiſhed.

Product.

		£.		
Fatting 6 oxen, 14 weeks, at 3*s.* 6*d.*	£.	14	14	0
4 calves 14 weeks, at 1*s.* 4*d.*	—	3	14	8
1 cow 14 weeks, at 2*s.* 6*d.*	—	1	15	0
10 ſheep ditto, at 8*d.*	—	4	13	4
28 ditto, 8 weeks, ditto,	—	7	9	4
33 ditto, 4 ditto, at ditto,	—	4	8	0
		36	14	4

Which is, *per* acre, 4*l.* 11*s.* 9*d.*

This year Mr. *Scroope* had alſo another experiment on cabbages, containing ſix acres, part of a field of eight; ſtrong gravelly land: Rent 10*s.* an acre. It was ploughed for the firſt time in *October*; the ſecond time from angle to angle, the three laſt days in *April*: It was to have been ploughed in *March*, but the ſeaſon was too wet to allow it. *May* 18th and 19th, a chaldron and an half of lime *per* acre, were ſpread; and 15 loads *per* acre of ſoap aſhes, tanners bark, and horſe dung mixed together. *June* 15th, 17th, and 18th, ploughed for the third time, and planted. The 25th of *July*, they were horſe-hoed firſt, and then hand-hoed; the weather very droughty. *Auguſt* 19th, 20th, 21ſt, horſe and hand-hoed, a ſecond time.

October 1ſt, viewed this field of cabbages; they do not look ſo well as thoſe in the laſt experiment, the drought having taken a much greater hold on the ſoil; a gra-

a gravel:—But very few plants are miſſing. The 2d, heavy rains, the firſt that came that continued any time. So great was the drought, that the ſprings did not riſe till the 10th of *December*.

Began to uſe them *December* 23d, for
5 Oxen, 25 Sheep.
March 18th, added 15 Sheep.
Finiſhed *April* 20th.

Product.

		£.	s.	d.
5 oxen 17 weeks, at 3*s.* 6*d.*		14	17	6
25 ſheep ditto, at 8*d.*	—	14	13	4
15 ditto, 5 ditto, at 8*d.*	—	2	10	0
		32	0	10

Which is *per* acre, 5*l.* 6*s.* 9*d.*

It is here to be remarked, that although the common joiſting price *per* week is charged this, as well as other years, yet the fact is very different. Had Mr. *Stroope* attempted to joiſt his cattle this year in turnips, he could not have done it at three times, or even four times the above price; turnips failed ſurprizingly, inſomuch that the price they ſold at was enormous: Cabbages bearing a tranſplantation without watering, and ſupporting the drought ſo much better, is a very ſtrong argument in their favour; for theſe reaſons, this very ſpirited cultivator juſtly thinks his cabbages this year of prodigious value; was ſuch an one to occur again, he would not ſell ſuch a crop at twelve guineas an acre.

1766.

This year ſeveral pieces of land were planted: Firſt, Two acres of a rich black loam, rent 25*s.* *per* acre. It was an old lay, broke up the year before, and ſown with oats. It was ploughed in *February*; and, the 10th of *March*, angle-ploughed it: *April* 15th and 16th, again in oppoſite angles, and harrowed it. *May* 21ſt, laid it into beds; and, the 30th, finiſhed planting it. *June* 27th, *&c.* horſe-hoed, and hand-hoed

them. *July* 14th and 15th, horſe and hand-hoed them again. *December* 1ſt began to uſe them for

	10 Sheep	12 Hogs
The 6th, added	7 Oxen	
28th, ditto	6 Ditto	22 Sheep.

February 21ſt, they were finiſhed, and all ſold off.

Product.

			£.		
10 ſheeps, 12 weeks, at 8*d.*			4	0	0
12 hogs, at 6*d.*	—	—	3	12	0
7 oxen, 11 weeks at 3*s.* 6*d.*		—	13	9	6
6 ditto, 8 ditto.	—		8	8	0
22 ſheep, 8 ditto,	—	—	5	17	4
		£.	35	6	10

Which is *per* acre, 17*l.* 13*s.* 5*d.*

This crop was weighed in a very fair and impartial manner; for an outward row on each ſide was weighed at three different draughts, 10 cabbages at each end, and 10 in the middle; and alſo three draughts of a middle row, in the ſame manner; the general average being taken, the weight *per* acre amounted to 52 tons, 13 cwt, and 3 quarters, and the number of cabbages 6555.—52 tons 13 cwt. giving a profit of 17*l.* 13*s.* is in the proportion of 6*s.* 7*d.* *per* ton.

In the ſame field, and adjoining to this crop, were two rows of turnip-cabbages, managed in every reſpect as the others. They weighed, when in perfection, 8lb. a piece at an average; they were given to beaſts and ſheep, who eat them freely, but preferred the *Scotch* ſort.

Mr. *Scroope* had likewiſe four acres and a half of *Scotch* cabbages in another field, the ſoil a ſandy loam: Rent 4*s.* 6*d.* *per* acre. This crop was managed like the other, and came to 40 tons *per* acre.

Alſo another piece of two acres, much the ſame ſoil, but rather ſtronger, rent 4*s.* 6*d.* an acre. Theſe amounted to 23 tons *per* acre.

Alſo

Alſo four other acres on a ſtrong gravel; rent 10*s.* manured with a chaldron and half of lime, and 15 loads of dung *per* acre; they were horſe and hand-hoed in the ſame manner as the reſt. Product 25 tons *per* acre.

1767.

This year alſo this excellent huſbandman had ſeveral crops of cabbages; firſt, a five-acred piece, a rich loamy ſoil; rent 8*s.* 6*d.* an acre. It was a lay, and pared and burnt for turnips the preceding year: The plants were managed like the preceding ones, and the crops amounted to 40 tons *per* acre.

Likewiſe two acres on a ſtronger, but cold loam; rent 4*s.* 6*d.* *per* acre. The crop 25 tons; they were not begun till the beginning of *March*, and laſted till the end of *April* without decay.

Alſo two acres upon a rich black loam, 25*s.* *per* acre: Theſe weighed 53 tons *per* acre.

1768.

The crops of this year I had the ſatisfaction of viewing, and exceeding fine they are; but as the cabbages are not yet in perfection, no abſolute account can be given of them: They conſiſt of four acres and an half; a good ſandy loam; rent 17*s.* 6*d.* *per* acre, manured with two chaldrons of lime *per* acre, winter fallowed, and croſs ploughed as before. Mr. *Scroope* expects, and is pretty certain, from former experience, that this crop will come to 35 tons *per* acre.

Two acres, rich black loam, rent 25*s.* winter-fallowed. I cut a cabbage in this field, not near in perfection, and neither the largeſt nor the ſmalleſt, that weighed,

	lb.	oz.
Cabbaged part, — —	25	11
Leaves, — —	4	0
Stalk, — —	0	5
	30	0

This crop will amount to 50 tons *per* acre.

Two acres, a clayey loam; rent 4*s.* 6*d.* Winter and ſpring fallowed, the average weight *per* acre of this crop will be 30 tons.

Having thus laid before you a part of this excellent cultivator's experiments on cabbages, I ſhall next draw, into one inſtruction, his ſentiments on the method of planting and managing them, being the reſult of all his experience.

The richer the ſoil, by much the better; it ought, if the cabbages are expected to be very large, to be either a rich black crumbly clay, or a clayey loam, and ſuch as throws out great crops of other kinds: A ſandy ſoil will do pretty well, if it be rich, but gravels are bad. The land cannot be too much manured for them; as Mr. *Scroope* apprehends that no crop will pay ſo well for rich manuring (if the ſoil is not very good) as cabbages; and, for this purpoſe, he prefers compoſts of different ſorts, well mixed, or horſe dung.

The land is firſt to be ploughed in *October*, to turn in the old ſtubble (the cabbages being a fallow). The next ſtirring is to be given in *March*, and two more as ſoon as dry ſeaſons will permit. If the weather is very dry, it ſhould be harrowed after every ploughing: The two laſt earths ſtrike it into beds four feet wide, and arch them up. He never, in any of theſe ſtirrings, ploughs deeper than for common crops.

The ſeed is to be ſown early in ſpring, upon a bed of well-dug good earth, one pound is ſufficient for ſix acres of plants.

The end of *May*, or the beginning of *June*, is the time to plant; they are taken from the ſeed-bed, and ſet by the eye along the tops of the beds, two feet from plant to plant. It is a rule never to water, which greatly encreaſes the trouble and expence for very little purpoſe: Mr. *Scroope* has never watered, not even in 1765, when the planting was performed in a ſevere drought.

The

The horſe and hand-hoeing are always to be performed in dry weather. The firſt horſe-hoeing ſhould be given as ſoon as any weeds riſe; and when that operation is done, the plants ſhould directly be hand-hoed, by drawing away the earth into the furrows, and drawing other earth up to their ſtems. The hoes nine inches wide. The ſecond horſe-hoeing ſhould be given in about three weeks, or a month; the firſt turns a furrow *from* the plants, and this throws it back again. As ſoon as it is over, hand-hoe again, as before. With this management, the cabbages will be ready for uſe in *November* or *December*, and laſt, without rotting, till the end of *April* or beginning of *May*. The beſt method of uſing them, is to cut them regularly as they come, and to carry them to a dry graſs field: In this manner all ſorts of cattle do exceedingly well upon them. Oxen of an hundred ſtone, that have had the ſummer's graſs, are finiſhed, and without delay, never going back in fleſh (the caſe oftentimes with turnips,) and improving faſter than on any other food. All kinds of young cattle maintained through winter in full health and growth to great profit. Cows fed with them to more advantage, ſix to one, than upon any other food; the milk being great in quantity, perfectly ſweet, and the butter excellent; but the precaution muſt be obſerved of picking off the decayed leaves. Fat ſheep are carried forward in great perfection, better infinitely than on turnips. Ewes ſhould be put to cabbages about a fortnight before they lamb, by which means they will be in the proper order; the lambs have always proved uncommonly fine and ſtrong. Swine feed very freely on them, and are kept in very good condition without other food.

By means of feeding ſtock of all theſe kinds on graſs lands, the improvement of them is prodigiouſly great;—ſuperior to any other manuring.

The expences this excellent cultivator finds as follow, upon his beſt land.

Expences.

Rent, — —	£.	1	5	0
Four ploughings, at 4*s.* —		0	16	0
Two harrowings, at 1*s.* 4*d.* —		0	2	8
Seed, at 16*s. per lb.* —		0	2	8
Planting, — — —		0	2	6
Two horſe-hoeings, with one horſe, at 10*d.*		0	1	8
Two hand-hoeings, at 1*s.* —		0	2	0
		2	12	6

Upon the poorer land, it is at an average as follows, rent varying.

	l.	*s.*	*d.*	
Four earths, — —	0	16	0	
Two harrowings, —	0	2	8	
Seed, — —	0	2	8	
Planting, — —	0	2	6	
Horſe-hoeing, —	0	1	8	
Hand-hoeing, —	0	2	0	
Sundries, —	1	7	6	
Lime, 1 ½ chaldron, at 5*s.*	0	7	6	
Carriage 3 miles at 2*s.* 3*d.* *per* chaldron, —	0	3	4½	
Spreading, —	0	1	6	
15 loads of dung, carriage, filling and ſpreading,	0	8	6	
	1	0	10½	
£.	2	8	4½	

Having thus ſtated the expences, it will be proper to inquire into the profit; the average of which, in the preceding experiments, may be pretty exactly aſcertained. The average expence of manured crops, I rate, as above, at 2*l.* 8*s.* 4½*d.*

In 1763, the crop weighed 33 tons 15 cwt. *per* acre, and yielded, in produce, 8*l.* 6*s.* 8*d. per* acre, that is 4*s.* 11*d. per* ton.

One

One of the crops of 1766 paid 6*s.* 7*d.* *per* ton.

The average of these two prices is 5*s.* 9*d.* *per* ton.

Having these data to calculate upon, I shall next proceed to recapitulate the crops, and the produce, and, where the joist of cattle is not specified, supply it by a valuation *per* ton; adding at the same time the expences, varied from the foregoing table according to soil, and deducting the one from the other, state the *clear profit*.

	1761.				*l.*	*s.*	*d.*
Product *per* acre,		—			7	7	8
		l.	*s.*	*d.*			
Expences—Sundries,		1	7	6			
Lime,	—	0	12	4½			
Dung,	—	0	15	0			
Rent,	—	0	15	0			
					3	6	2½
Profit,		—			4	1	5½
	1763.						
Product,	—	—			8	6	8
		l.	*s.*	*d.*			
Expences—Sundries,		1	7	6			
Rent,	—	0	12	0			
Dung,	—	1	0	10½			
					3	0	4½
Profit,		—			5	6	3½
	1764.						
Product *per* acre,		—			11	8	8
		l.	*s.*	*d.*			
Expences—Sundries,		1	7	6			
Rent,	—	0	15	0			
Lime,	—	0	18	6½			
					3	1	0½
Profit,		—			8	7	7½

1765.

1765.

N° 1.

					l.	s.	d.
Product *per* acre,				—	4	11	9
			l.	s.	d.		
Expences—Sundries,			1	7	6		
Rent,	—		0	15	0		
Lime,	—		0	12	4½		
						2	14	10½
Profit,				—		1	16	10½

N° 2.

					l.	s.	d.
Product *per* acre,				—	5	6	9
			l.	s.	d.		
Expences—Sundries,			1	7	6		
Rent,	—		0	10	0		
Lime,	—		0	12	4½		
Compoſt, I calculate at			1	5	0		
						3	14	10½
Profit,				—		1	11	10½

1766.

N° 1.

					l.	s.	d.
Product *per* acre,				—	17	13	5
Expences,	—			—	2	12	6
Profit,				—	15	0	11

N° 2.

					l.	s.	d.
Product, 40 tons at 5*s.* 9*d.*					11	10	0
			l.	s.	d.		
Expences—Sundries,			1	7	6		
Rent,	—		0	4	6		
Manure,	—		1	0	10½		
						2	12	10½
Profit,				—		8	18	2½

N° 3.

N° 3.

		l.	s.	d.	l.	s.	d.
Product, 23 tons, at 5s. 9d.	—				6	12	3
Expences—Sundries,		1	7	6			
Rent,	—	0	10	0			
Manure,		1	0	10½			
					2	18	4½
Profit,	—	—			£ 3	13	10½

N° 4.

		l.	s.	d.			
Product, 25 tons at 5s. 9d.	—				7	3	9
Expences—Sundries,		1	7	6			
Rent,	—	0	10	0			
Manure,	—	1	0	10½			
					2	18	4½
Profit,	—	—			£ 4	4	4½

1767.——N° 1.

		l.	s.	d.			
Product, 40 tons at 5s. 9d.	—				11	10	0
Expences—Sundries,		1	7	6			
Rent,	—	0	8	6			
					1	16	0
Profit,	—	—			9	14	0

N° 2.

		l.	s.	d.			
Product, 25 tons at 5s. 9d.	—				7	3	9
Expences—Sundries,		1	7	6			
Rent,	—	0	4	6			
Manure,		1	0	10½			
					2	12	10½
Profit,	—	—			4	10	10½

N° 3.

				l.	s.	d.
		N° 3.				
Product, 53 tons at 5s. 9d.		—		15	4	9
Expences,	—		—	2	12	6
Profit,	—		—	12	12	3

1768.——N° 1.

				l.	s.	d.
Product, 35 tons at 5s. 9d.			—	10	1	7
Expences—Sundries,				1	7	6
Rent,	—			0	17	6
Lime,	—			0	16	6
				3	1	6
Profit,	—		—	7	0	1

N° 2.

				l.	s.	d.
Product, 50 tons at 5s. 9d.			—	14	7	6
Expences,	—		—	2	12	6
Profit,	—		—	11	15	0

N° 3.

				l.	s.	d
Product, 30 tons at 5s. 9d.			—	8	12	6
Expences—Sundries,				1	7	6
Rent,	—			0	4	6
Manure,				1	0	10½
				2	12	10½
Profit,	—		—	5	19	7½

RECAPITULATION.

Expences.

				£			
1761.	Total,	—	—	£	3	6	2½
1763.	Ditto,	—	—		3	0	4½
1764.	Ditto,	—	—		3	1	0½
	Carry over				9	7	7½

				£	s	d
		Brought over		9	7	7½
1765.	N° 1.	Total,	——	2	14	10½
	N° 2.	Ditto,	——	3	14	10½
1766.	N° 1.	Ditto,	—	2	12	6
	2.	Ditto,	—	2	12	10½
	3.	Ditto,	—	2	18	4½
	4.	Ditto,	—	2	18	4½
1767.	N° 1.	Ditto,	—	1	16	0
	2.	Ditto,	—	2	12	10½
	3.	Ditto,	—	2	12	6
1768.	N° 1.	Ditto,	—	3	1	6
	2.	Ditto,	—	2	12	6
	3.	Ditto,	—	2	12	10½
				£ 42	7	9

Average, 2*l.* 16*s.* 6*d.*

Product.

1761,	——	——		7	7	8
1763,	——	——		8	6	8
1764,	——	——		11	8	8
1765, N° 1.	——			4	11	9
2.	——			5	6	9
1766, N° 1.	——	—		17	13	5
2.	——			11	10	0
3.	——	——		6	12	3
4.	—	—		7	3	9
1767, N° 1.	—	—		11	10	0
2.	—	—		7	3	9
3.	—	—		15	4	9
1768, N° 1.	—	—		10	1	7
2.	—	—		14	7	6
3.	—	—		8	12	6
			£	147	1	0

Average, 9*l.* 16*s.*

Profit.

				£	s	d
1761,	—	—		4	1	5½
1763,	—	—		5	6	3½
		Carry over		£ 9	7	9

		£		
	Brought over	9	7	9
1764,		8	7	7½
1765, N° 1.		1	16	10½
2.		1	11	10½
1766, N° 1.		15	0	11
2.		8	17	1½
3.		3	13	10½
4.		4	4	4½
1767, N° 1.		9	14	0
2.		4	10	10½
3.		12	12	3
1768, N° 1.		7	0	1
2.		11	15	0
3.		5	19	7½
	£	104	12	3

Average, 6*l.* 16*s.* 2*d.*

Such is the ſtate of this moſt excellent cultivator's experience on cabbages; the facts are too inconteſtible and ſtriking in their nature, and too accurate in their regiſter, to leave the point they prove the leaſt in doubt. From this day I cannot but ſuppoſe the culture of cabbages will become as common in *England* as turnips; and the ſame honour, in all future times, be due to the name of SCROOPE, the father of this moſt excellent huſbandry, that we now pay to thoſe of *Weſton* and *Tull*, the introducers of turnips and clover. Sincerely do I think, that cabbages are more valuable in huſbandry than either of thoſe vegetables.

POTATOES.

Mr. *Scroope* has, for many years, tried numerous experiments on this moſt uſeful root: But as the reſult of them has been remarkably uniform, it will be ſufficient to ſketch the method of culture he follows, and which has been generally ſucceſsful.

The ſoil fixed on, preferably to others for potatoes, is a ſandy loam. It is ploughed three times in ſpring; in the third ploughing the ſlices of potatoes

toes are laid in the furrows, one foot from each other, with a handful of long dung to each ſet, ſo as to come up in equally diſtant rows, two feet aſunder; the ſets and dung are covered in the ploughing. Eight buſhels of potatoes and five loads of dung are ſufficient for an acre. When the plants are about two or three inches high, the land is harrowed level. The rows are afterwards horſe hoed twice, and hand-hoed once or twice. The crop is ploughed up; a perſon follows the plough to pick them up; it is then harrowed, the harrows followed in the ſame manner; after this it is in the ſame manner ploughed and harrowed again, and wheat harrowed in; the crop of which is always good. The average crop of potatoes 216 buſhels *per* acre. One potatoe, laſt year, weighed 18 ounces.

LUCERNE.

The experiments which this gentleman has tried on lucerne, tho' not upon a very large ſcale, are extremely ſatisfactory.

In 1761, he ſowed half an acre alone in drills: The ſoil, a ſtrong loam upon a cold wet gravel. The plants all died away the ſecond year.

In 1766, he drilled ſeven rows equally diſtant, four feet aſunder; the ſoil a rich black loam, worth 25*s.* *per* acre, the 23d and 24th of *May*. The 17th of *June*, they were horſe-hoed and then hand-hoed. The 14th of *July*, horſe-hoed a ſecond time, and then hand-hoed again. *Auguſt* 14th, cut them; and again afterwards. The firſt cutting maintained four coach horſes and five calves ſix weeks. The ſecond kept ſeven horſes a month.

In 1767, it was cut three times; and maintained ſeven horſes from the firſt cutting, the middle of *May*, all the ſummer, to the end of *September*: It was horſe and hand-hoed thrice.

In 1768, when I viewed it, it had been cut thrice, and would yield another ſmall cutting. From the middle of *May* it has kept ſix horſes.

From

From an accurate inſpection into the ſoiling theſe horſes, it appears that the feeding them with lucerne has regularly ſaved 12*s.* 10*d.* a week in hay.

CARROTS.

Several years ago, Mr. *Scroope* had an acre of very fine carrots on a rich loam. A very large ox was fed on them, but in three weeks he ſurfeited; the food was then changed, after which, by giving ſmall quantities at a time, he did extremely well on them.

In 1766, a bed was drilled in ſingle rows, four feet aſunder, upon a rich black loam. They were horſe-hoed thrice, but left quite thick in the rows. The carrots were very fine, 18 inches long, and 11 in circumference. They were given to pigs, who fatted ſo well upon them, that a few peaſe finiſhed them, and the fat was very fine and very firm.

DRILLED TURNIPS.

In 1766, a piece of turnips was drilled, in rows equally diſtant, four feet aſunder, and 12 inches from turnip to turnip; they were horſe-hoed twice, and hand-hoed twice. The average weight of the turnips 7lb. 8 ounces, which is a very conſiderable produce; for it amounts to 36 tons 9 cwt. *per* acre.

DRILLED WHEAT.

In 1759, Mr. *Scroope* drilled ſome wheat upon a cold loam, rather ſpringy: It was well prepared by a ſummer fallow. The firſt week in *October* it was drilled, in equally diſtant rows 22 inches aſunder; the corn came up very finely. From *Chriſtmas* to the end of *February*, catching hard froſts, and a deep ſnow; the end of that month the froſt broke. Fine weather to the 7th of *March*. On the 8th, the rows were horſe-hoed for the firſt time, with M. *Du Hamel*'s miner. The corn looks but indifferent, having ſuffered by the froſts.

May 23d, hoed again with the ſame inſtrument; much recovered ſince the firſt hoeing. *June* 16th, hand-weeded. *Auguſt* 13th, began to reap; but ſome broad caſt adjoining, not till the 23d.

Two

Two acres and one half in the old huſbandry produced 99 ſtooks, each 12 ſheaves, which yielded 99 buſhels, or *per* acre 38 buſhels.

One acre in the drilled way produced 24 ſtooks, each ten ſheaves, which yielded 24 buſhels.

	Q.	B.	P.
Old huſbandry,	4	6	0
New ditto,	3	0	0
Superiority of the former,	1	6	0

This is an important experiment, and proves ſufficiently clear, that, on ſuch land, the old huſbandry is much ſuperior to this mode of drilling.

1760.—This year ſix acres of a ſtrong loam, inclining to clay, were ſummer fallowed by five common ploughings and one acroſs. *October* 3d, it was drilled in beds, three rows, nine inches aſunder, with intervals of three feet. Upon one part, only two rows upon each bed; finiſhed drilling *October* 7th.

October 22d, the wheat comes up, and looks well: Weather very ſeaſonable without froſts. A mild winter with little froſts or ſnow.

March 29th, 30th, 31ſt, horſe-hoed for the firſt time, and looks well.

May 12th, a ſecond time, the ground in good order but very dry, the wheat rather thin: The 14th finiſhed. Hand-weeded after it.

Memorandum. The high winds, and a pack of fox-hounds, prevented more horſe-hoeings. *Auguſt* 29th, the corn got in; the crop nine buſhels two pecks *per* acre.

1761.—The ſame ſix acres were this year ſown again in the ſame manner, and horſe-hoed thoroughly: The product eight buſhels three pecks *per* acre, which weighed 71 lb. *per* buſhel.

1762.—The ſame field was again drilled this year; managed in all reſpects as before, the crop eight buſhels *per* acre.

1763.—Theſe ſix acres were again drilled this year: The culture as before: Product *per* acre ten buſhels.

1764.—This year the field was drilled again for the laſt time, in the ſame manner as before: The culture while growing alſo the ſame. Product *per* acre 9 buſhels.

OBSERVATIONS.

This experiment would have been continued; but it was found on ſo many repeated trials to be very trivial and unprofitable, that Mr. *Scroope* gave it up, tired out with continued ill ſucceſs: He gave a regular attention to all the operations; and they were effectually and vigorouſly performed; the ſoil kept looſe and perfectly clear of weeds. Had it been cropped in the old huſbandry, the profit would have been conſiderable, but in this method the loſs was great.

In general theſe crops were extremely ſubject to being laid by wind and rooks, and then to being deſtroyed by mice; and this infinitely more than any broadcaſt crops. In this method the land ſhould not be at all expoſed to the weather. The land was at laſt in extreme good condition.

The horſe-hoeing coſt 2*s.* *per* acre, and the hand-weeding 2*s.*

DRILLED BEANS.

In 1760, two acres of a ſtrong gravelly ſoil, partly inclined to clay and ſtoney, were drilled with beans, with M. *Vanduffel*'s drill-rake; the rows equally diſtant, two feet aſunder: One buſhel of ſeed *per* acre, the beans being dropt five inches from each other.

In the ſame field two acres were ſown in beds, with three rows, five inches aſunder, and intervals three feet two inches wide: two buſhels of ſeed *per* acre.

Alſo two acres in the ſame field, drilled after the common plough, every other furrow, two buſhels *per* acre.

The remainder of the field, two acres ſown broad caſt, under furrow, three buſhels and one peck, and two pecks of lentils mixed among them, *per* acre. All were harrowed, after ſowing, with the teeth upwards, not to draw any of the ſeed out.

REMARK. Mr. *Vanduffel*'s drill-rake, improper for land where there is ſtubble, as it choaks up; and where

where there are ſtones, it jumps out of its work.

May 16th, firſt horſe-hoed the equally diſtant rows. But the beans look very indifferent, part of the ſeed being deſtroyed by the crows. Thoſe in beds look well, and promiſe fair. Thoſe drilled after the plough look much the beſt, but come up ſo irregularly, that there is no horſe hoeing them.

The beds were next horſe-hoed; and thoſe ſown after the plough hand-hoed.

June 23d, the ſecond horſe-hoeing was given.

September 4th, 5th, and 6th, the crops reaped. That upon the beds the ripeſt. The equally diſtant rows the leaſt ripe, but beſt loaded.

PRODUCT. Q. B. P.

The two acres, equally diſtant rows produced — 2 1 2

Or *per* acre 1 quarter 3 pecks.

Its crop would have been better, but the land was not above half ſeeded; otherwiſe it would have been great, for ſome of the ſtalks had 40 and 50 pods.

The two acres in beds produced, — 1 6 0

Or *per* acre 7 buſhels.

The two acres, after the plough, produced, 3 4 0

Or *per* acre 1 quarter 6 buſhels.

The two acres of broadcaſt produced of beans, — 2 7 0

Of lentils, — — 0 7 2

In all, — — 3 6 2

Or *per* acre one quarter, ſeven buſhels, one peck.

Product, *per* acre, of the broadcaſt, 1 7 1

Ditto, of thoſe ſown after the plough, 1 6 0

The former ſuperior by — 0 1 1

Product, *per* acre, of the broadcaſt 1 7 1

Ditto, of the equally diſtant rows, 1 0 3

The former ſuperior by — 0 6 2

Product, *per* acre, of the broadcaſt,	1	7	1
Ditto of the beds,	0	7	0
Former ſuperior by	1	0	1
Product, *per* acre, of thoſe ſown after the plough,	1	6	0
Ditto, of the equally diſtant rows,	1	0	3
Former ſuperior by	0	5	1
Product, *per* acre, of thoſe ſown after the plough,	1	6	0
Ditto, of the beds,	0	7	0
Former ſuperior by	0	7	0
Product of the equally diſtant rows,	1	0	3
Ditto, of the beds,	0	7	0
Former ſuperior by	0	1	3

This experiment, in relation to product, is very clear and ſatisfactory; and ſhews that the broadcaſt method had advantages not equalled by theſe modes of drilling.

Drilled Garden Vegetables.

In the year 1766, Mr. *Scroope*, in his experiment ground*, drilled many ſorts of garden plants, in ſingle rows, four feet aſunder, horſe-hoed them thrice, beſides hand-hoeing and weedings. Onions, cellery, endive, garden-beans, coſs-lettuce, cauliflowers and

* The mention of this field reminds me of a precaution taken by this exceedingly ſenſible cultivator, which ſhould always be imitated: He had remarked, in reading the modern books on agriculture, that numerous trials were rendered uſeleſs by cattle breaking into experiment grounds; he was determined to meet with no accidents of that kind, and accordingly pailed in the whole field, ſo that a horſe, cow, ſheep, and hog, are not only kept out, but even a hare.

arti-

artichokes, all proved incomparably good; and not only ſweeter than his gardener raiſed in the garden, but likewiſe larger and fairer. The ſoil of the experiment ground is a rich black mold, worth 25*l.* *per* acre.

MADDER.

In *May* 1768, one row of madder plants, four feet from the rows of other things, and eight inches from plant to plant, was ſet in the experiment ground: I never viewed any plants more luxuriant. They are regularly horſe-hoed and hand-weeded; and will, I have no doubt, become in two years a fine crop, and a vaſt one in three. Mr. *Scroope* propoſes extending the plantation to more rows by ſlips. No ſoil can poſſibly be better ſuited to it.

HOLLOW DRAINS.

In the draining wet ſoils, this moſt ſpirited cultivator has found no method ſo efficacious as the hollow drain. His method of making them is to cut a trench 27 inches deep, 18 inches wide at top, and four inches wide at bottom; they are filled up by crouding large ſtones in, ſo as to lodge, (wedged) within ſix or eight inches of the bottom: Over theſe they are filled up with ſmaller ſtones within a foot of the ſurface; over theſe, is a layer of bean ſtraw, and then the remainder of the trench is filled up with the molds.—The digging coſts 3*d.* a rood.

Their effect is prodigious; the wetteſt ſoils are at once laid dry and ſound, and inſtead of being poached all winter with the leaſt treading of cattle, they are left perfectly firm, and bear an ox of the largeſt weight. The method is an exceeding good one.

MANURES.

The experiments which this gentleman has formed on manures, are particularly valuable; as they are deſigned with great penetration, and executed with no leſs ſpirit.

In the winter of 1758, a very large compoſt hill was formed, in the following manner. Firſt, a layer

was made of farm-yard dung; next one upon that of virgin earth; a third of lime; the fourth of virgin earth; the fifth of dung; the ſixth virgin earth, and the ſeventh of lime.

In theſe compoſts, Mr. *Scroope* makes it a rule never to lay lime and dung together, on account of burning; but throws the lime between two layers of earth.

In the following ſummer, this hill was turned over twice, and well mixed together. In the winter of 1759, it was again well turned over. *March* 9th, *&c.* 1760, it was uſed upon a paſture, to the amount of 296 loads, 60 were laid *per* acre. Part of the field was ploughed with an inſtrument, which Mr. *Scroope* has found very ſerviceable:—a five coultered ſcarificator. Of which I took this ſketch, plate IV. fig. 3.

a to b 6 feet 6 inches.
c to d 2 6
e to f 4

The oval coulter-board 15 inches broad. The coulters three inches from each other; two feet three inches long, and four inches wide. The axle tree 22 inches long, the wheels 18 inches diameter.

That part of the field that was ploughed was much better than the other part. But the virtues of the manure were ſo potent, that the whole has been infinitely better ever ſince.

This paſture was ill laid, hide-bound and moſſy, ſuppoſed to be owing to long ploughing, and ſo much lime being laid on it as to attract all the oleaginous juices from the ſoil, which is a cold gravelly clay. That part of it that was ploughed with the ſcarificator, the cattle were much fonder of, and eat more bare than the other part; and the great advantage of the ſcarificator was alſo very evident in mowing, in 1761, as it was there all ſpread with white clover and yellow trefoile, inſomuch that the neighbours imagined, that the ſeeds had been ſown. In 1761, the ſtack from the whole was 15 yards long, and 5½ wide,

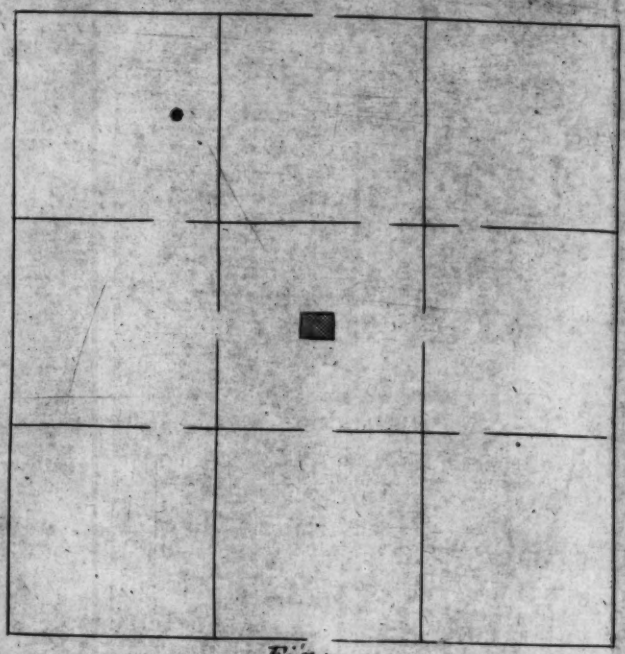


Fig. 1.

Fig. 3.

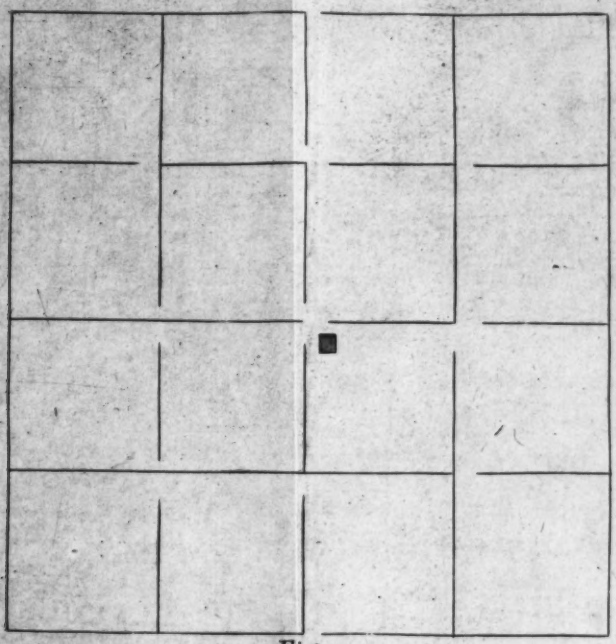


Fig. 2.

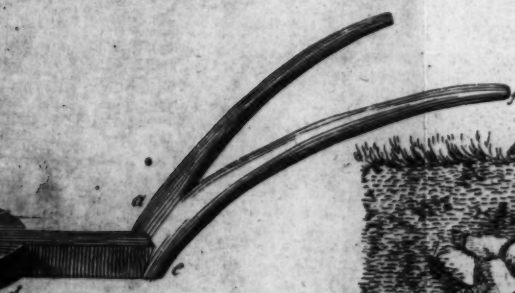
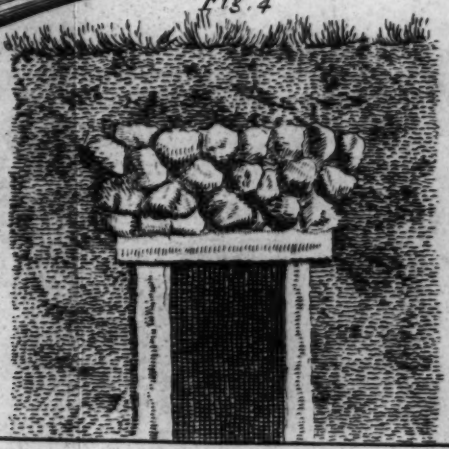
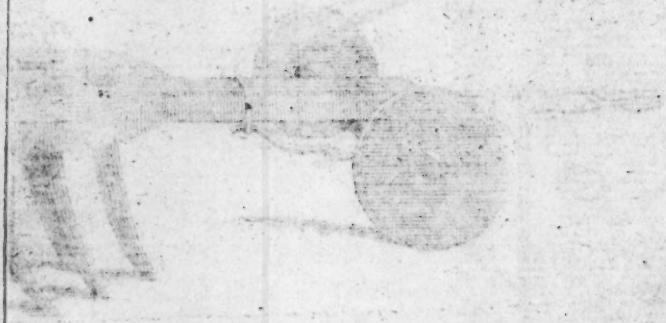


Fig. 4





wide, and well carried up; in quantity three times as much as ever grew upon the field before. In 1762, it was paſtured. In 1763, mowed again, the ſtack 12 yards long and ſix wide; the ſcarificated part continued much the beſt, the crop ſuppoſed to be 24 tons; in the whole 17 acres. It was before let at 10*s.* *per* acre.

In *February* 1760, another experiment was tried on manuring in this method: A graſs field was divided into three parts:

N° 1. Was ploughed with the ſcarificator, and then manured with ſoap aſhes.
2. Manured with ſoap-aſhes, and then ploughed with the ſcarificator.
3. Manured with ſoap-aſhes, and not ploughed at all.

In 1761,

N° 1. Was much the beſt.
2. The next.
3. The worſt.

In 1762, another trial was made on another field of 17 acres, a gravelly ſoil, managed as before; but the ſoap-aſhes here did not anſwer; the ſcarificating equally as before.

Theſe experiments are all clear in the reſult, and cannot be controverted:—you will however, doubtleſs recollect, that thoſe made by Mr. *Dalton* at *Sleningford*, turned out very differently;—but this variation muſt be owing to a difference of ſoil; that gentleman is ſituated upon a ſhallow limeſtone land, and he mentioned particularly, that the ſcarificator was thrown out of its work by ſtones; from whence we may conclude, that the implement is uſeleſs on *ſtoney* ſoils; and from Mr. *Scroope*'s experiments, that it is excellent on *clay*, *loam*, and *gravel*.

Such variations, in uſing the ſame inſtrument, cannot be uncommon: All experiments, tho' conducted with ever ſuch exactneſs, and ſimilitude of conduct, will vary with the ſoil: And from thence reſults the

great uſe of *trying* every thing upon all ſorts of ſoils.

The following account of the common huſbandry in the neighbourhood of *Danby*, will illuſtrate the preceding particulars.

The ſoil, in general, is a gravelly clay and loam; lets at from 10*s*. to 15*s*. the arable. Farms from 30*l*. to 200*l*. The courſe of crops generally three to a fallow. For wheat, they plough three times, ſow two buſhels, or two and an half if old ploughing, the latter end of *October* and beginning of *November*, and gain from 20 to 25 buſhels *per* acre. For barley, they plough three times, ſow two buſhels, and two and a half, in *April* or beginning of *May*, and gain from three quarters to five *per* acre. They plough once for oats, ſow four buſhels on an acre in *March*, and gain from 30 to 40 buſhels in return. They plough once for beans, ſow four and 4½ buſhels broadcaſt in *February*, never hoe them, and gain from 20 to 25 buſhels, uſe them for horſes, beaſts and calves, and ſplit or ground for horſes and calves. They plough once for peaſe, ſow four buſhels, and 4½ (never hoe them) in *March*, and gain from 30 to 35 buſhels. They plough three times for rye, ſow 2½ buſhels, and gain from 40 to 50 buſhels *per* acre; it is ſown in *October*, or ſpring rye in *March*. For turnips, they plough three times, never hoe them, but value a crop from 1*l*. 10*s*. to 3*l* *per* acre, and uſe them for ſheep, for oxen, cows, and calves. They pare and burn for rape, and plough once after it; ſow it in *July* and *Auguſt*, never feed it, but gain from 40 to 50 buſhels an acre; it is ſucceeded by maſlin, *i. e.* wheat and rye mixt.

Tney ſow 12 pounds of clover on an acre, with oats, barley, or bigg, gain about three tons of hay; reckon they have better crops after mowing than feeding; many keep it two or three years in mowing, and generally ſow wheat after it.

In

In manuring, they lay three chaldrons of lime (32 buſhels to the chaldron) for which they give 7*s.*; 1*s.* 8*d.* a mile for leading, and 2*s.* 6*d.* an acre ſpreading; expence of paring from 11*s.* to 13*s.* *per* acre, of burning, 3*s.* 6*d.* ditto of ſpreading 1*s.* 8*d.*

They ſtack their hay in the fields, never chop ſtubbles, nor fold ſheep except upon turnips; of aſhes they lay from 15 to 25 loads on an acre: town dung on graſs and arable, 20 loads an acre; they ſeldom marle, never on graſs ground, nor uſe any compoſts.

Good graſs land lets from 20*s.* to 30*s.* *per* acre, for vaſt numbers of beaſts; but more dairying, butter being the commodity of the county; allow an acre and rood of graſs to each ox or cow, and five ſheep to an acre. The farmers never lay any manure at all on to land of this value. Their breed of horned cattle, chiefly *Holderneſs* and *Dutch*; the ſize of their hogs, from 20 to 25 ſtone, 14 lb. to the ſtone. Of oxen, from 60 to 120 ſtone, reckon the produce of a cow at 6*l.* 7*s.* They give, in *May*, *June*, and *July*, from five to nine gallons of milk *per* day. Profit on a beaſt of 50 ſtone, 4*l.* if ſold before *Martinmas*, but more if kept till winter; reckon more profit from breeding than buying in, if the ſtock is good. They allow four or ſix hogs to be maintained by ten cows: Calves ſuck ten days or a fortnight; give them ſkim milk, and ſome give linſeed cakes. A dairy maid, will take care of ten cows. If a cow calves early, her winter hay will coſt 2*l.* 10*s.*—from that to 3*l.* they reckon the joiſt of a cow in winter; in ſummer, from 25*s.* to 35*s.* and 40*s.* They reckon an acre of the above land will fat an ox of 50 ſtone. Never keep their cows in the houſe, till after calving; and if the weather is good, turn them out again in a month or ſix weeks: This is in caſe they calve about *Candlemas*, which is the moſt uſual time for breeding ſtock. Value of an ox-hide, from 15*s.* to 2*l.* 10*s.*; the *Lancaſhire* hides will yield more. The ſize of their flocks, 200 ſheep in 100 acres of feeding land to a

propor-

proportionable ſtock of other kinds, profit *per* ſheep, 8*s.*; reckon in winter, that one acre of good turnips will keep 20 ſheep, the average fleece from 6 to 7lb. To 100 acres of arable land, they keep four horſes and ſix oxen, and drive two horſes and two oxen in a plough; do an acre a day; reckon the annual expence of a horſe, 4*l.* 5*s.* a year, the ſummer's joiſt of one, 1*l.* 10*s.*; in winter, 2*l.* 15*s.*; feed their oxen, in winter, with oat and barley ſtraw, *&c.*

They break up their ſtubbles in *September* and *October*, give 4*s.* 6*d.* and 5*s.* an acre for ploughing, never chop ſtraw into chaff, but mix their chaff with the corn for horſes. Hire of a cart, three horſes, and driver, from 4*s.* to 5*s.* a day. Average of hay *per* ton, for ſeven years, from 25*s.* to 30*s.* In the hiring and ſtocking farms, they reckon 400*l.* ſufficient for 100*l.* a year, half graſs, half arable, ſome of the particulars as follow:

Half a year's rent in hand, 50*l.*
Seed for ſowing down ſpring corn, 12*l.* 10*s.*
To the management of fallow, 13*l.* 10*s.*
Implements, 40*l.*
They give from 33 to 37 years purchaſe for land.

Tythe compoſition for wheat in general, 2*s.* in the pound rent; employment of the poor at ſpinning, earn from 4*d.* to 7*d.* a day, young and old at knitting from 4*d.* to 6*d.* Moſtly drink tea.

They carry their corn from five to ſeven miles computed.

Leaſes from 7 to 21; terms from three to five years; lives none.

Surveyor's rate, 3*d. per* acre.

LABOUR.

In harveſt, men, 1*s.* and 1*s.* 6*d.* a day; women, 9*d.* and 1*s.*
In hay-time, men 1*s.* women 8*d.*
In winter, men 10*d.*

They

They ſeldom reap by the acre.
Mowing ſpring corn, they have 1*s.* 6*d.* an acre.
Graſs, 2*s.*
Ditching *per* rood, 4*d.* to 8*d.*
Threſhing wheat, 3*d.* a buſhel.
Barley, from 1*s.* to 1*s.* 3*d.* *per* quarter.
Oats, from 10*d* to 1*s* 2*d.* ditto.
Beans, from 10*d.* to 1*s.* ditto.
Water-furrowing with a ſpade, ½*d.* a rood.
Filling carts, from 1*s.* 6*d.* to 2s. *per* ſcore.
Head-man's wages, 15*l.* a year.
Plough lads, 6*d.* a day.
Boy of 10 or 12 years old, 4*d.*
Dairy-maid's wages from 5*l.* to 6*l.* a year.
Other maids, 3*l.* to 5*l.* ditto.
Value of a man's board, waſhing and lodging, 3*s.* 6*d.* a week.
Maids, ditto, 5*l.* or 6*l.* *per annum*.

Their hours of labour in a day, from eight to ſix, but few work ſo long. In winter, from nine to five.
Riſe of labour within ten years, 3*d.* *per* day.

IMPLEMENTS.

A waggon, 20*l.*	A ſpade, 3*s.* 6*d.* or 4*s.*
A cart, 7*l.* to 8*l.*	Laying a ſhare, from 4*d.* to 6*d.*
A plough, 1*l.*	A coulter, ditto to ditto.
A harrow, 11*s.*	Shoeing a cart-horſe, 1*s.* 4*d.*
A ſtone-roller, 1*l.* 2*s.*	Wheel-tires, 3*s.* 8*d.* *per* ſtone.
A ſcythe, 5*s.* to 6*s.*	

PROVISIONS, *&c.*

Bread, — —	12 lb. for 11*d.*
Cheeſe, (ſkim milk)	2*s.* 4*d.* a ſtone.
Butter, — —	8*d.* and 9*d.* lb.—22 *oz.*
Beef, — —	3½
Mutton, — —	ditto.
Veal, — —	3*d.*

Pork,

Pork, — — 4*d*
Bacon, — — 6
Milk, *per* pint, — $\frac{1}{2}d$.
Potatoes, *per* peck, 4*d*. and 6*d*.
Turnips, ditto, — $2\frac{1}{2}$
Candles, per lb. — $6\frac{1}{2}$ and 7*d*.
Soap, — — $6\frac{1}{2}$
Labourers houſe-rent, *per annum*, from 5*s*. to 30*s*.
——— firing, 17*s*. 6*d*. with breaking hedges.
——— tools, 12*s*. 2*d*.
Price of coals 7*d*. 3 buſhels.

BUILDING.

Bricks, *per* 1000, 7*s*. 6*d*. or 10*s*. 6*d*. from the retailers.
Tiles, ditto, 2*l*. 2*s*. and 2*l*. 5*s*.
Oak timber, *per* foot, 1*s*. 6*d*.
Aſh, from 10*d*. to 14*d*.
Elm, from 1*s*. 2*d*. to 1*s*. 4*d*.
Soft woods, from 8*d*. to 9*d*.
Maſon, *per* day, 1*s*. 8*d*.
Carpenter, ditto.

Poor rates, in 1730 and 1740, at 3*d*. *per* pound, 1760 to 1769, at $5\frac{1}{2}$ *per* pound.

Mr. *Scroope*'s common huſbandry conſiſts in improvements upon the preceding ſyſtem.

He takes but two crops to a fallow, gives five or ſix ploughings for wheat, firſt and ſecond, from angle to angle*, and harrowing after each, ſows in *September*, or as ſoon as poſſible in *October*, and gets 30 buſhels on an acre in general, better in quality than the common; he ploughs as often for barley, unleſs after turnips or cabbages, and ſows two buſhels of ſeed; ſows it the latter end of *March* or early in

* This is an excellent practice, but not ſo common as it ought, though recommended by *Virgil*:

Et prociſſo quæ ſuſcitat æquore terga,
Rurſus in obliquum verſo perrumpit aratro.

April,

April, and generally reaps five quarters. He ſows *North Frizeland* kind of oats, 3 or 3½ buſhels to an acre, in *March*, and gains 50 buſhels or better upon good loam, and has had 80 buſhels *per* acre.

He ploughs three times for beans; ſows three buſhels, or 3½ broad-caſt in *February*, and gains from 28 to 35 buſhels; ſeldom grows any peaſe, unleſs to plough in for manure, and then ſows three buſhels in *February*. Gives the ſame earths for rye, as wheat gains, from 40 to 50 buſhels *per* acre, and which weighs three or four pounds more a buſhel than the common; it is little uſed, as the poor people will ſcarcely buy it.

For turnips he ploughs five times, hoes them in *June*, *July*, and *Auguſt*, and values them from 4*l.* to 5*l.* *per* acre, uſes them for fat oxen, ſheep, calves, and cows (except milch). This gentleman has fed many ſheep upon rape, and the crop anſwered extremely well; he thinks the better for it, as he obſerved it yielded moſt where it was neareſt eat; he had 80 ſheep upon 17 acres, and ſold 20 of thoſe ſheep for 40 guineas; he had 12 laſt of ſeed upon thoſe acres, 80 buſhels to the laſt.

Mr. *Scroope* never keeps clover but one year, and ploughs in the after-graſs, which he gets a good crop of wheat after; he has had pretty good crops of tares, and extreme good oats after them, the tares ſown after barley.

His general practice is to lay two loads of dung upon an acre, beſides two chaldrons of lime; of ſoap-aſhes he lays from 25 to 30 loads *per* acre, alſo common aſhes. Some times lays 40 loads of town dung *per* acre, and has laid the ſame of clay on an acre of gravelly land in ploughing, which has anſwered extremely well. The compoſt he has chiefly made uſe of is a mixture of lime, virgin earth, dung of all kinds, with ſoap-aſhes; and to take care that the lime and horſe litter do not lie together, (as it will be apt to fire) it muſt be turned as ſoon as the lime is found

found dead, otherwiſe it will run together and cement; this kind of compoſt ſhould be turned at leaſt three times, if you lay it upon graſs any wiſe moſſy: He ſhould recommend *Du Hamel*'s cultivator, or five-coultered plough, properly ſet for the ſoil, to be run over the ground before you lay the compoſt on. N B. This compoſt has anſwered and improved all the different ſoils this gentleman has tried it on, particularly ſtony, gravelly clay: From being let at 10*s.* *per* acre, it is let at 1*l.* 2*s.* 6*d.* *per* acre.

Mr. *Scroope* has obſerved, that land in general that wants draining has a *ſtratum* of clay, otherwiſe the water would not be kept up ſo near the ſurface, (except where it is a peat-earth). The firſt thing to be done is to take the proper levels, and conſult from whence comes the origin of your ſprings. A main drain then to be properly placed, and ſide drains from that main drain; all theſe to be cut into the clay, which you will generally have before you, are three quarters deep. The drains at the top ſhould be at leaſt two feet wide, at the bottom three inches, having proper ſpades for that purpoſe; he would chuſe to fill them all with ſtone, many do it with ſmall faggoting, others with ſods, the graſs-ſide downwards, cut like a wedge; this latter is what is commonly uſed, but he has found by experience they ſoon decay. N. B. Bean-ſtraw, or any ſtraw, laid upon the ſtones, before the drains are filled up. Expence, 3*d.* and 3½*d.* a rood for digging, 2*d.* a rood for filling with ſtone, and filling up the level, 3½*d.* for leading and getting of ſtone, if it's got out of a quarry; it will be leſs, if the ſtone is got upon the land.

Mr. *Scroope* has always kept to the *Holderneſs* and *Dutch* breed of horned cattle; he has had oxen of 135 ſtone, 14lb. to the ſtone; he generally ſells his three year olds, after wintering, at 21*l.* and 22*l.* *per* beaſt; gives his calves new milk for two months, then old milk and bean-meal till they are turned to graſs, or feed them with good lettuce, lucerne, &c.

He

He has found that one acre of good turnips will keep 20 ſheep the winter, but that one acre of cabbages will keep above 50. The weight of his wool, *per* ſheep, generally runs to 12 and 14lb. that are fat, the firſt year clip 10lb.

This gentleman's method of laying arable to graſs, is firſt to reduce the moulds as fine as poſſible by a fallow, ſowing it down with barley or bigg, the latter he would chuſe in *moor* ſoils, after the corn is come up, ſows eight buſhels of common graſs-ſeeds, 2lb. of cow-graſs, ditto of rib-graſs, ditto of yellow trefoil, and roll it the firſt dry ſeaſon.

* * *

This ſeries of experiments made by Mr. *Scroope* at *Danby*, are equally valuable with thoſe of any author antient or modern: Moſt of his trials are completely regiſtered, and fully ſatisfactory in the reſult: All are candid and accurate, and demand the ſincereſt tribute of praiſe from every lover of huſbandry. But his experience extends further; and embraces not only the improvement of lands already in huſbandry, but the cultivation of waſte tracts, of no uſe either to the owner or the nation, until this moſt ſpirited farmer reduced them to order and profit.

At *Dalton*, about ſixteen miles from *Danby*, and nearer to *Richmond*, this gentleman poſſeſſed an extenſive moor, which yielded no other advantage than his tenants adjoining turning a few ſheep on it: A large tract of land, in ſuch a condition, gave ſo active a genius much uneaſineſs. He determined to attempt the improvement, however expenſive—and make a dreary country ſmile with cultivation, notwithſtanding the propheſied ill-ſucceſs and ridicule of many of his neighbours.

It is in ſuch reſolutions that a man riſes ſuperior to the common herd.—In the moments of mental activity, when the ſoul has the courage to purſue the viſions of the fancy, and realize ideal worlds. Impoſſibilities exiſt only with the vulgar.———The

character

character of a great man has in almoſt every inſtance been gained by thoſe attempts, which little minds call raſh. When the idea is ſpirited, there is honour even in ill-ſucceſs.

Magnis tamen excidit auſis.

Mr. *Scroope* had the courage to attempt what was deemed abſurd to think of, and he had the conduct to command ſucceſs.

He began his works in the year 1755, by marking out a contiguous 900 acres. In that tract was ſome of the ſoil, called in *Yorkſhire* white earth, that is very good land, but quite uncultivated, and partly over-run with ſpontaneous rubbiſh. But moſt of it was the black peat moor, bearing a ſhort ſtinted ling.

His firſt buſineſs was the incloſure, which he did by walling; the ſurface of the moor yielded, in ſome places, a ſufficiency of ſtones for this work, but in many others pits were ſunk for them, the quarries are all lime-ſtone, and moſtly near the ſurface. The firſt year 289 roods were built of the ring fence. This work was all contracted for by the meaſure, at 5*s.* 6*d.* a rood, of ſeven yards long, and five feet high. A gate, two poſts, and the irons, came to 6*s.*

At the ſame time that this buſineſs was carrying on, the foundations of a farm-houſe and offices were laid: But as ſomething more than a ſlight account of theſe improvements is here meant, it will be uſeful to minute the ſize and expence of theſe buildings, that falſe ideas of the expence of improving uncultivated lands may not become more common than they are already.

The houſe was 170 feet in circumference by 18 feet high, or 234 ſuperficial yards. The gables, above the line, 18 by 14, or 28 ſuperficial yards. Two partition-walls, 14 by 18 each, or 56 ſuperficial yards. Partition-gable 14 by 12, or 18 yards.

The circumference of the ſtable was 80 feet by 11 high, or 97 ſuperficial yards. Gable-tops 16 by 12, or 21 yards.

In

		l.	s.	d.
In both, 455 yards at 6*d.* *per* yard, workmanſhip; the wall 22 inches thick,		11	7	6
Two chimnies to the firſt floor	—	1	10	0
Ditto, the ſecond floor,	—	1	1	0
Edging of the gables, called windſkews,		0	7	6
An oven,	—	0	8	0
36 Quoit-ſtones, at 3*d.*	—	0	9	0
6 Windows, and door ſtead, 105 feet, at 5*d.*		3	4	7
Door, and window-ſtead, in ſtable, 40 at 5*d.*		0	16	8
Sundry ſmall articles,	—	0	15	2
		19	19	5
Two cart loads of ſtones do three yards; the getting coſts 2*d.* *per* load, and the carriage 2*d.* this is 2½*d.* *per* yard, on 455 yards,	—	4	15	0
	£	24	14	5

Although this account does not include all the articles of the building, yet from hence it is evident, that, in ſtony countries, the expence is very ſmall.

If the roof is thatch, the carpenter's work is 2*s.* *per* ſquare, for hewing, ſawing, and joining, the ſpars only rived poles.

Thatching the roof of a barn 9 ſquare and 86 feet; and a granary, 5 ſquare and 52 feet, coſt 5*l* 2*s.*

If the roof is ſlated, the carpenter's work is then, for hewing, ſawing, and joining, 6*s.* a ſquare

A rood of 49 ſuperficial yards of ſlating, coſts,

		£		
The ſlates at quarry,	—	1	12	0
Carriage, four miles,	-	0	7	0
Laying on,	—	1	1	0
	£	3	0	0

1756.

This year, the principal work of carrying on the ring-wall was continued with great ſpirit. And a ſubdiviſion was made to incloſe 16 acres for improving. This piece was totally covered with ling, not a

ſpot of green ſward, but all black peat earth: Many ſtones were removed that were not fit for walling, and the whole buſineſs of clearing very tough work.

The method purſued was that of paring and burning, which, like the walling, was all done by meaſure: Paring, burning, and ſpreading the aſhes, were well performed for 16*s.* 6*d.* *per* acre. With the aſhes of the turfs, four chaldrons *per* acre of lime were ſpread; but in this article Mr. *Scroope* was fortunate, for the lime-ſtone, which runs every where under the farm, enabled him to manure at a cheap rate. His lime coſt,

	l.	*s.*	*d.*
The getting, and breaking the ſtones, *per* chaldron, —	0	0	9
Eight buſhels of coals burn a chaldron of lime; theſe coſt, delivered in,	0	2	6
Burning, *per* chaldron, —	0	0	7
	£0	3	10

The field being incloſed, pared, and burnt, and limed, the next buſineſs was giving it one ploughing, which turned in the aſhes and lime, and turnip-ſeed was then harrowed in. The crop proved very good, worth 35*s* *per* acre.

But here I ſhould obſerve, that before the liming and ploughing began, Mr. *Scroope* fixed a working bailiff in the houſe, with three horſes and a yoke of oxen, to execute the buſineſs of carrying on his improvement. At the ſame time he turned 130 ſheep on the farm.

The ſucceſs attending the firſt eſſay in gaining a good crop of turnips from off ſuch very bad land, was a great encouragement to proceed vigorouſly with the work.

1757.

This year was employed in the grand buſineſs of walling, which being of the moſt importance, the team was kept to it conſtantly, which prevented any freſh

freſh acquiſition of culture. The increaſe of the firſt ſtock of ſheep was left on the farm, that a larger number might be gained, in a regular proportion to the improvements. The 16 acres, which laſt year yielded turnips, were fallowed this year.

1758.

The walling went on this year without delay;—indeed it was attended ſo much to, that no freſh piece was broke up. The ſtock of cattle was however increaſed: An addition was made of

47 Sheep 2 Calves
18 *Scotch* heifers 2 Milch Cows.

The 16 acres, already broke up, yielded this year a crop of oats to the amount of five quarters *per* acre; the ſtraw of which was a very fine aſſiſtant to keeping theſe cattle in the winter.

1759.

The grand affair of walling did not ſtop this year; but a ſubdiviſion made, which incloſed a field of 20 acres; this piece was a very ſtubborn one, it was all black earth, but the walls cleared it of ſtones: One circumſtance in which it was very diſcouraging, was many parts of it being wet; however, ſeaſonable times being taken, the ſurface was all pared and burnt at the ſame price as before, and the wetteſt parts of it laid dry by a few good drains. It was then limed, five chaldrons *per* acre, and ſown with turnips. The crop proved an exceeding good one, worth 40*s*. *per* acre.

The 16 acres, before broke up, were this year in clover, ſown with the laſt year's oats, the crop a very good one, and yielded a fine produce of hay. This year's ſtock of cattle:

Working beaſts and heifers the ſame as before.
29 Lambs, 2 Bulls, 2 Cows, added.

A noble ſtock of cattle, to be kept on land which ſo lately maintained nothing! 20 acres of turnips, and 16 of clover-hay, were of excellent ſervice in keeping them.

1760.

It is needleſs to repeat, that the buſineſs of walling has been carried on every year without interruption. A new incloſure of 10 acres was made this year, upon a favourable piece of land, being white earth: It was pared and burnt as before, and ſown with turnips; the crop excellent; worth 4*l.* *per* acre.

The 16 acres firſt broke up were this year under maſlin, having graſſes ſown with it; it produced four quarters *per* acre.

The Seed.

6 Buſhels *per* acre of hay-ſeeds.
2lb. ditto, of white clover.
2lb. ditto, of burnet.
2lb. ditto, of rib-graſs.

It was limed for the maſlin, at the rate of four chaldrons *per* acre.

The 20 acres which yielded turnips laſt year, were ſown again with them this year, being limed, four chaldrons *per* acre, and were worth 50*s.* *per* acre. The crops therefore of this year were,

20 Acres of turnips, 10 Ditto. 16 Of maſlin.

The ſtock of cattle this year,

4 Horſes 2 Draught oxen 60 Sheep
28 Beaſts 2 Cows.

1761.

This year a thirteen-acred piece, of the ſame land as the acquiſition of the laſt, was walled in, and broke up by the plough without paring.

The 16 acres, firſt broke up, were now in graſs, and promiſed very fair to be an excellent paſture, for they were now covered with a fine herbage, and maintained, on experiment, at the rate of a beaſt to two acres.

The 20 acres next improved yielded this year a crop of oats, four quarters *per* acre.

The 10 acres were alſo ſown with oats: The crop five quarters *per* acre.

The diſpoſition of the fields, therefore, this year, was, 13 Acres

13 Acres fallow.	20 Acres oats.
16 —— graſs.	10 —— ditto.

And the ſtock of cattle as follows.

4 Horſes	18 *Scotch* beaſts
2 Draught oxen	10 Young cattle
194 Sheep	2 Milch cows.

Here I cannot avoid making a pauſe, to reflect on the ſurprizing improvement here effected in ſix years. A farm-houſe and offices erected: The ring-fence-wall around 900 acres built; thoſe incloſing ſeveral ſub-diviſions, formed: 16 acres of good paſture land gained, and 43 in a courſe of tillage, all yielding very beneficial crops: A large ſtock of cattle maintained:—And all this in a tract of land that ſo lately exhibited none but the moſt dreary of proſpects; and which every farmer in the country would have refuſed at a farthing an acre! Who moſt deſerves a ſtatue; the man who effects *ſuch works*, or he who conquers a kingdom?

1762.

This year, the cultivated land was encreaſed by the addition of 12 acres, which were broke up by the plough without paring. The ſoil black moor, and of the worſt ſort; it was a ſevere work, but at laſt effectually performed.

The 16 acres of graſs were much improved ſince the laſt year.

The 20 acres were again ſown with oats, and well limed; with the corn, graſs-ſeeds as before. This crop of oats amounted to four quarters *per* acre.

The 10 acres broke up in 1760 were this year cropped with oats. The crop four quarters and a half *per* acre.

The thirteen-acred piece this year yielded a very fine crop of turnips, being limed for at the rate of four chaldrons *per* acre; They were worth 3*l.* 13*s.* an acre.

The following, therefore, is the general view of this year's crops.

12 acres fallow	20 acres oats	13 turnips.
16 —— graſs	10 —— ditto	

The ſtock of cattle this year,

4 Horſes	200 Sheep	7 Young cattle
2 Oxen	25 *Scotch* beaſts	2 Cows.

1763.

This was a buſy year; for two fields were added to the cultivated lands, both well incloſed with walls: One of 20 acres was part of the worſt land of the whole farm; all a rotten black peat-earth, over-run with tough ling and many ſtones; and what was worſe, much of it very wet It was a difficult buſineſs to prepare this field for paring and burning; but ſome well-executed drains were formed, and the whole pared and burnt, and four chaldrons *per* acre of lime ſpread with the aſhes, and then ploughed, and turnip-ſeed harrowed in. The crop very good, worth 50*s.* an acre.

The other piece broke up and improved this year was 18 acres of the better ſort of land: It was walled in, and then pared and burnt, and four chaldrons *per* acre of lime ſpread, and 14 acres of it ſown with turnips, and four planted with the large *Scotch* cabbage: The latter managed in all reſpects as the crops already regiſtered at *Danby*; they came to 11 lb. *per* cabbage, on an average. The turnips a fine crop, worth 3*l.* *per* acre; but much inferior in value to the cabbages.

This year the 16 acres of graſs were much improved: An acre and a half was found ſufficient for ſummer-feeding a cow.

The 20 acres broke up in 1759 were now in graſs for the firſt year: The herbage very fine and regular, and promiſed to become an excellent paſture.

The ten-acred piece was this year a fallow.

The 13 acres, broke up in 1761, were ſown with turnips for the ſecond time; The crop worth 45*s.* *per* acre.

The

The 12 acres fallowed laſt year were under oats: The crop five quarters *per* acre.

The diſpoſition of the crops this year, upon the whole, was as follows.

20 Acres of turnips.
14 —— ditto.
13 —— ditto.
4 —— cabbages.
16 —— graſs.
20 —— ditto.
10 —— fallow.
14 —— oats.

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And the ſtock of cattle this year,

4 Horſes 2 Oxen 200 Sheep
30 *Scotch* cattle 6 Young ditto 2 Cows.

About this time, this very able cultivator found it moſt advantageous, in the management of his cattle, to buy in *Scotch* heifers at two years old, to breed, and then annually to ſend off ſuch as are fit for fatting. The flock of ſheep was alſo regulated, and now yielded a profit of 40 or 50 ewes and wethers every year.

1764.

Some more lime-kilns being this year erected for the manuring of the improved lands, which now became ſomewhat extenſive; and the buſineſs of the ſubdividing walls, carried on with ſpirit, found the team ſo much employment, that no new piece was broke up this year. The ſtate of crops was:

The 16 acres continued in graſs, and made a very valuable paſture.

The 20 acres brought into cultivation in the year 1759, were alſo in graſs; and promiſed ſoon to equal the goodneſs of the other field.

The 10 acred-piece was now likewiſe in graſs, the ſeeds being ſown alone in *Auguſt* of the preceding year. The crop exceedingly fine.

The 13 acres which yielded turnips laſt year, were ſown with oats this year, and among them parſley, four quarters *per* acre.

The 12 acred piece was this year cropped with parſley, ſown among the oats of the preceding year. Many ſheep having of late been rotten in the neighbourhood, gave Mr. *Scroope* ſome fear for his own, which induced him to try parſley as a preſervative. And there is the greateſt reaſon to ſuppoſe the ſucceſs conſiderable, as the ſheep quite around the farm were univerſally rotten this year, but thoſe at *Dalton* eſcaped without attack.

The 20 acres, broke up in 1763, were this year cropped with cabbages; the crop a very noble one; ſix acres yielded 14lb. the average weight *per* cabbage, and the reſt of the field 10 lb They were, in all reſpects, cultivated in the ſame manner as the crops at *Danby*.

The 18 acred-piece, this year, yielded oats; the crop five quarters and an half *per* acre. Theſe crops drawn into a general view, will appear as follow;

16 Acres graſs	12 Acres parſley
20 —— ditto	30 —— cabbages
10 —— ditto	18 —— oats.
13 turnips	

The ſtock of cattle,

4 Horſes	11 Young cattle
2 Oxen	200 Sheep
26 *Scotch* heifers	2 Cows.

1765.

This year 18 acres were added to the farm, by plain breaking up with the plough, without paring, *&c.* It was conſequently fallowed. The ſoil, the beſt upon the farm, a fine loam, 18 inches deep, that would bear exceeding good carrots. The ſtate of crops this year was,

The 16, 20, and 10 acred-pieces, continued in graſs, and excellent paſtures they were conſtantly found.

The

The 13 acres were this year covered with parſley before mentioned:

The 12 acres were alſo cropped by the ſame plant, continuing the ſecond year upon the ground.

The 20 acres broke up in 1763, this year yielded oats, four quarters and an half *per* acre.

The 18 acres, brought into cultivation the ſame year, were cropped, 10 with cabbages, that came to 8lb. average weight; and eight with oats, four quarters *per* acre.—It is needleſs to remark, that through the whole courſe of this huſbandry, all the fields of cabbages, turnips, and corn with graſſes among it, have been regularly limed, four chaldrons *per* acre.

General view.

18 Acres of fallow
46 ——— graſs
25 ——— parſley
28 ——— oats
10 ——— cabbages.

127

Stock of cattle,

4 Horſes
2 Oxen
200 Sheep
12 Young cattle.
26 *Scotch* heifers
2 Cows.

1766.

No freſh land has been broke up ſince the year 1765; Mr. *Scroope*, upon conſidering attentively the ſtate of his farm, at the end of that year, found the improved land too extenſive, and too good for the ſmall buildings he had at firſt erected: He had then juſt ten years experience of the nature of theſe moory ſoils, and was convinced that the improvement of them was a very profitable buſineſs He had 46 acres of excellent paſture land; every one of which would carry ſeven ſheep through the ſummer, or an acre and an half maintain a cow the ſame time. Such graſs is any where worth 15*s. per* acre. He had 109 acres in tillage,

tillage, which all yielded very beneficial crops; thoſe of oats were ſeldom under four quarters *per* acre; his turnips rarely failed, and were always valued at from 40*s.* to 3*l.* 10*s.* *per* acre; and his cabbages excellent crops, riſing from 15 to 34 tons *per* acre. In this ſtate of the farm it was evident, that by means of ſo much good graſs, with more ready to be laid, of fine crops of turnips, better of cabbages, and no inconſiderable quantity of ſtraw;——large ſtocks of cattle might be kept, and the buſineſs of improvement carried on upon a larger ſcale.

But before ſuch ideas were to be executed, new buildings were abſolutely neceſſary. The team was inſufficient for the land, a new one muſt be fixed; but ſtabling would firſt be requiſite. The barns would not near contain the crop of corn——others muſt be raiſed. Another bailiff to work with, and inſpect the new team, would be proper;———a houſe muſt be built for him. In ſhort, many new buildings were become abſolutely requiſite, for the further carrying on the improvements.

Mr. *Scroope* juſtly concluded, that his firſt buſineſs was to raiſe theſe, and that the preſent team might have the more time for aſſiſting the works, to put a ceſſation to breaking up freſh land until the farming offices were all ready for houſing the cattle employed, and the crops yielded by the new improved land.

Purſuant to this reſolution, he began this year to build another (and much better) farm-houſe,—ſtables, barns, granaries, *&c. &c.* all upon a much larger conſtruction than before; and judiciouſly fixed them in the center of the unimproved lands.—This work employed him during the years 1766, 1767, and part of 1768: It was juſt finiſhed when I ſaw it, and preparations making for walling the new incloſures around it.

The ſtate of crops this year, was

The 16, 20, and 10 acred pieces, continued in graſs.

The

The 13 acres were this year ſown with oats, and yielded a fine crop of five quarters *per* acre.

The 12 acres brought into cultivation in the year 1762, were planted with cabbages; the crop 10lb. at an average.

The 20 acres broke up in 1763, were this year fallowed, and conſequently limed.

The 18 acres broke up the ſame year, were in oats, four quarters *per* acre; as were the 18 broke up in 1765.

General view.

46 Acres graſs	12 Acres cabbages
49 —— oats	20 —— fallow.

The ſtock of cattle continued the ſame.

1767.

This year the 46 acres before mentioned remained in graſs.

The 13 acred piece was in turnips———the crop worth 3*l.* an acre.

The 12 acres broke up in 1762, were ſown with oats, and yielded five quarters *per* acre.

The 20 acres broke up in 1763, were cropped 11 acres with cabbages; the ſucceſs but indifferent; they did not come to above 5lb. *per* cabbage. The other nine were in turnips, worth about 40*s.* *per* acre.

The 18 acres, broke up the ſame year, were in oats;—the crop five quarters. The 18 broke up in 1765, were alſo under oats, and the crop very fine, better than the laſt mentioned.

General view.

46 Acres graſs	48 Acres oats
22 —— turnips	11 —— cabbages.

Cattle continued the ſame.

1768.

The 46 acres continued under graſs.

The 13 acres are under oats.

The 12 acred piece the ſame, and graſs ſeeds ſown with them.

The 20 acres broke up in 1763, are in oats.——The 18 broke up the ſame year are the ſame.

The

The 18 acres broke up in 1765, are five planted with cabbages, and 13 with turnips. All this year's crops promiſe finely.

General view.

46 Acres graſs	5 Acres cabbages
63 —— oats	13 —— turnips

Cattle the ſame as before.

Such is the regiſter of Mr. *Scroope*'s improvement of moor-land: It is with the utmoſt ſatisfaction I preſent it to the public: thoſe who know the immenſity of the tracts of uncultivated moors, that are every where to be met with in the north of *England*, will value ſuch an excellent example, as it nobly deſerves. Much do I hope, that it will be attended with the effect which all muſt wiſh, that of forcing from the moſt backward an imitation of his conduct; which muſt to all prove highly advantageous, and no leſs beneficial to the kingdom at large.

What a noble acquiſition will it be to change 900 acres, from being a barren deſart, to a finely cultivated farm! This will be effected in a few years; for now, the new houſe and ſet of offices being finiſhed, and preparations made for the walling and improving, by opening ſeveral quarries both for the walls and burning of lime, the grand work will go on faſt: The old team reſpited from attending the buildings, and the new ones being alſo free, both will be employed by the walling and tillage alone; and, conſequently, the breaking up the uncultivated land go on much quicker than ever: Probably 40, 50, or 60 acres will be incloſed, pared, burned and limed every year, and this work will be rendered light, if one of the old tillage fields is laid down every year.

If ſo very able a cultivator, who has ſo many years experience, and ſo apprehenſive a genius, would allow me to *conjecture* a little, I ſhould venture to mention the cultivation of ſainfoine to him. His higher grounds being a fine light loam upon a ſtratum of limeſtone, there can be no doubt but that graſs would thrive

thrive prodigiouſly upon it, and yield crops probably five times as beneficial as natural graſs. But on the lower grounds, which are all more or leſs inclinable to wetneſs, the beſt huſbandry muſt be to lay down to natural graſs, as long as it continues good; and when it falls off in value (if in a proceſs of years, it ſhould do that at all; but no ſigns have yet appeared in thoſe laid down already,) it ſhould then be pared and burned again, kept in tillage four or five years, and again laid down.

Another vaſt improvement in the upper lands, where the ſoil is deep (and in two or three fields it is from 12 to 18 inches), would be the culture of carrots: No ſoil can be better adapted to them, or yield better products; and I am confident, crops might, with thorough good hoeing, be gained here of 500 buſhels *per* acre, which quantity would, in the feeding of any cattle, be worth twenty-five pounds.

Mr. *Scroope's* introduction of cabbages on the moorland, is a moſt beneficial trial: I apprehend he took the hint from *M. de Tourbilli's Memoire ſur la Defrichements*, in which he relates a ſurprizing improvement of an acre of moory bog, which yielded as many cabbages as ſold for 37*l.* 10*s.*: A vaſt produce! Any perſon that views *Dalton* moors, would be ſtartled at the idea of raiſing cabbages on *ſuch land*; nor would they believe that 34 tons *per* acre, over many acres, would ever be produced there, unleſs the fact was proved to them: But Mr. *Scroope* has realized this aſſertion. Such crops, or even half the quantity, are noble acquiſitions upon land that was ſo very lately covered with nothing but ling.

Mr. *Scroope's* experiments on moor lands prove ſeveral points of very great importance,—particularly the following;

The expence of walling, upon ſuch moors, is 5*s.* 6*d.* *per* rood, of ſeven yards long, and five feet high.

That of paring and burning, and ſpreading the aſhes, is 16*s.* 6*d.* *per* acre.

That

That of laying on four chaldron *per* acre of lime, is 15*s.* 4*d.* *per* acre.

With ſuch improvement, theſe moors yield very beneficial crops; *viz.*

Turnips worth from 35*s.* to 4*l.*

Oats, from four to ſix quarters.

Cabbages, from 15 to 34 tons.

Maſlin, about three quarters.

Graſs, that will keep ſeven ſheep *per* acre, thro' ſummer, and a cow to an acre and an half.

Theſe facts are curious; and excellent *data* for thoſe to calculate upon, who *conſider* not a little before they undertake works which their forefathers had the *prudence* to deſiſt from.

To add any further reflections upon this moſt able and ſpirited cultivator's experiments, at *Danby* and *Dalton*, is unneceſſary. They form a ſeries of moſt valuable facts, which enlighten every part of huſbandry they concern—and are pregnant with inſtruction: I conclude with wiſhing, in the ſincereſt manner, that this excellent huſbandman may continue the regiſter of his trials:——he will thereby add new lights to the cultivator, and enlarge the moſt uſeful part of natural philoſophy———EXPERIMENTAL AGRICULTURE.

LETTER

LETTER XIV.

FROM *Danby*, moving weſtward by the banks of the *Eure*, I croſſed it at the neighbouring bridge; the river to the eaſtward takes a moſt beautiful picturesque divided courſe, among little woody iſlands and crags of rocks, over which it, in many places, falls with great rapidity, and makes a fine murmuring noiſe: The ſpot is truly elegant.—Paſſing through the town of *Middleham*, I croſſed *Middleham* moor, from the edge of which is a very fine proſpect down the valley, ſcattered over with villages, houſes, *&c.* the whole cut into incloſures of a beautiful verdure, with the river winding through it. The lofty top of Mount *Pennel* tempted me to turn aſide, for the pleaſure of viewing the country from ſo great a height; and although out of my way, and the road to the ſummit craggy and difficult, yet the extent of vales, mountains, and variety of country, made amends for thoſe circumſtances; the valley is beneath in another region, and the windings of the river ſeen in ſome parts diſtinctly: To the ſouth is a vaſt range of black mountains, which have a horrible aſpect; to the eaſt, the extent of country is great, and appears well cultivated; to the weſt, it partakes of both the ſublime and beautiful: But, upon the whole, the general proſpect was more bounded, and leſs ſtriking, than the height of the hill led me to expect.

Aſgarth-force was the object which led me to the weſt of *Danby*: From *Pennel*, I took the road thither, through a country various, but in general cultivated; the river *Eure*, at *Aſgarth*, falls in ſeveral places over rocks in a very romantic manner: The firſt fall is of ſeveral ſteps, near the bridge, and

though

though of no great ſteepneſs, yet is beautifully pictureſque: The theatre of the ſcene is a very fine hollow, incloſed by hanging hills, ſcattered with pendant trees; the river foams down ſeveral ſteps in its rocky bed, the view of which, through the arch of the bridge, is moſt elegantly pleaſing. I attempted a ſketch of it, plate V. which is however far enough from repreſenting the full beauty of the original. Under the arch you catch, in a moſt beautiful perſpective, firſt ſome ſtraggling ſhrubby underwood, which hangs juſt under the brick-work, then the ſheet of water falling ſome feet among the rocks, particularly intercepted by three large looſe pieces; next is ſeen another level ſheet nearer to you than the former, and then a ſecond daſhing among ſtraggling rocks, which throw up a foam that is very pictureſque: The top of the bridge is thickly over-grown with ivy; and the whole view is bounded by fine hanging hills, ſcattered with trees.

Lower down the river are three falls more, which are not a little ſtriking, from the romantic ſpot in which they are ſituated. The river is walled in with rocks of a conſiderable height, their tops fringed with ſhrubby wood; the loweſt of the falls is the principal, for the water ruſhes between the vaſt rocks, a double fall of 12 or 15 feet in the whole: the object is a noble one, though far from being equal to the fall of *Tees* before deſcribed.

Upon the whole, theſe falls are great curioſities, and ſufficient, I ſhould apprehend, to entertain the leaſt ſcrutinizing traveller.

As to the huſbandry about *Aſgarth*, it conſiſts chiefly in managing graſs lands: The ſoil is principally a good loam, and gravel, and lets, the incloſed, at about 20*s.* an acre the average. Farms riſe, from ſo low as 5*l.* to 100*l.* a year, but in general about 20*l.* or 30*l.* The courſes of the little arable they have, are

1 Fallow

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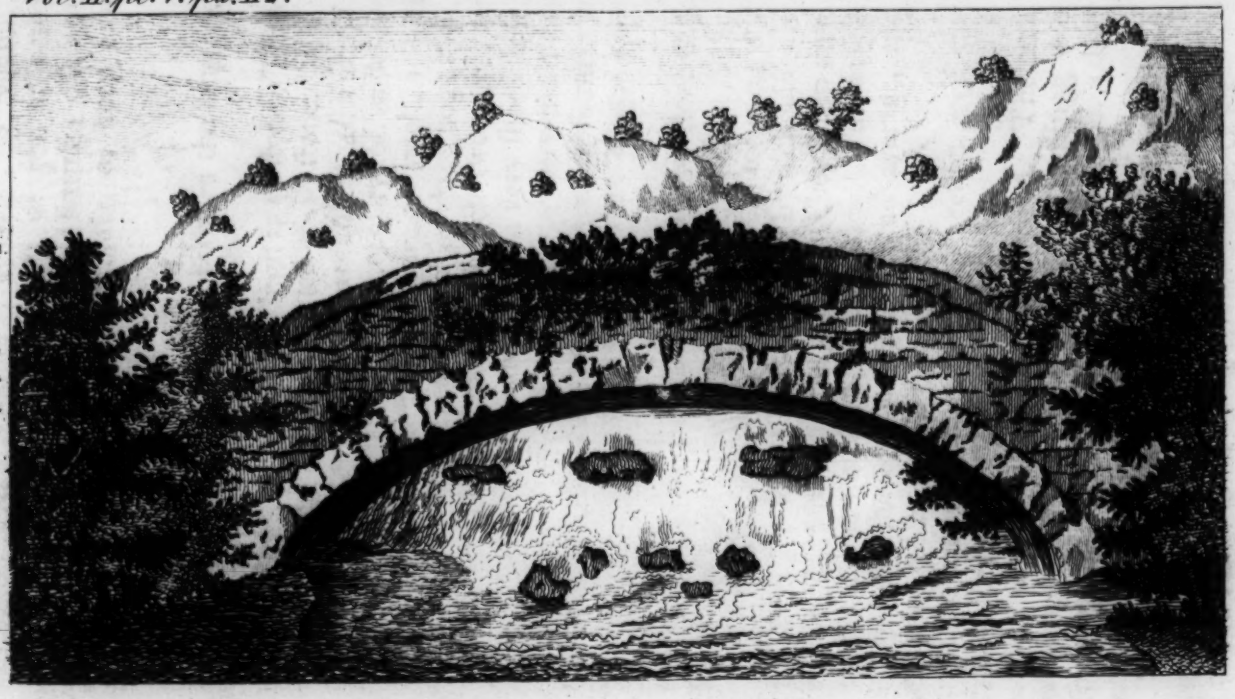
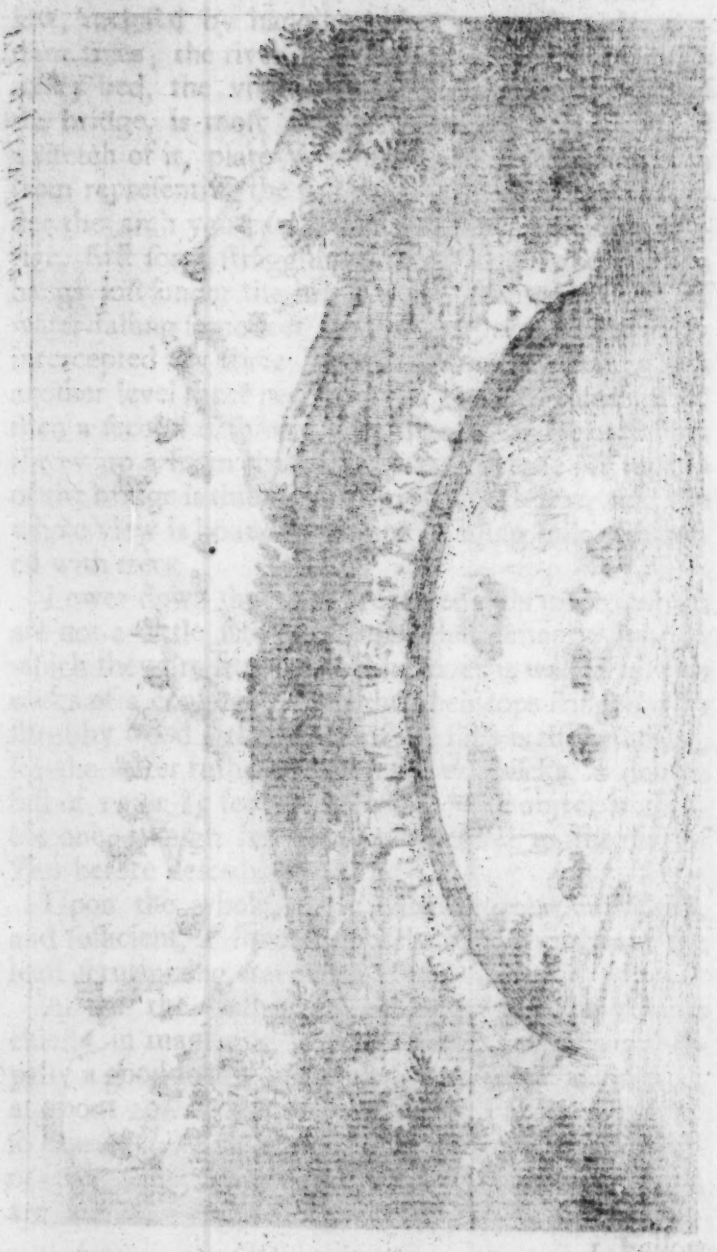




1. Fallow 2. Oats 3. Maſlin.
And another is, 1. Potatoes 2. Oats 3. Maſlin.

Very good graſs will let at 25*s.* or 30*s.* an acre: They apply it both to dairying and fatting; one acre will feed a cow through the ſummer, or keep four ſheep.

They all manure their graſſes.

The breed of their cattle is between the long and ſhort horns

Their hogs, they fat up ſo high as 30 ſtone: Three or four years ago, one was killed of 36 ſtone.

The product *per* cow, they reckon at 4*l.* 12*s.* 6*d.* at an average. The medium quantity of milk *per* day five gallons, and 7 lb. of butter *per* week, in bad paſture; and to ten cows, two or three hogs kept. The winter food hay alone, of which two acres *per* cow. They let their calves ſuck a very ſhort time, and ſome not at all. They reckon a dairy-maid can take care of five or ſix cows.—The joiſt in ſummer is from 30*s.* to 35*s*; in winter, they are always kept in the houſe.

In fatting beaſts they reckon one of 50 ſtone will, for the ſummer's feed, yield 4*l.* 10*s.* profit.

Their flocks of ſheep, riſe from 30 to 400; and the profit, *per* ſheep, they calculate by reckoning the lamb at 5*s.* and the wool 3*s.* 4*d.* They keep them the whole year round on the commons. The weight of wool *per* ſheep about 14 lb. on an average, and the price 9*d.* to 10*d.* *per* lb.

In the hiring their farms, they reckon 200*l.* neceſſary for ſtocking one of 50*l.* a year.

Poor rates are about 6*d.* in the pound. The poor women and children's employment is knitting and ſpinning, by which the women earn about 6*d.* a day, and girls 2*d.* and 3*d.*—Moſt drink tea.

The general œconomy of their farms will be beſt ſeen by the following ſketches:

100 Acres in all	4 Arable	96 Graſs
£. 80 Rent	6 Horſes	6 Cows

	16 Beaſts	2 Men
	20 Young cattle	2 Maids
	300 Sheep	2 Boys.
Another,	75 Acres in all	13 Young cattle
	5 Arable	10 Fatting beaſts
	70 Graſs	200 Sheep
	£ 76 Rent	1 Man
	3 Horſes	1 Maid.
	5 Cows	
Another,	160 Acres in all	20 Young cattle
	55 Arable	400 Sheep
	105 Graſs	2 Men
	£ 135 Rent	1 Boy
	8 Horſes	2 Maids
	15 Cows	1 Labourer.
	6 Fatting beaſts	
Another,	35 Acres, all graſs	6 Young cattle
	£ 42 Rent	100 Sheep
	3 Cows	1 Boy
	2 Horſes	1 Maid.

LABOUR.

In harveſt, 1*s.* and 1*s.* 6*d.* and board.
In hay-time, ditto.
In winter, 6*d.* and board.
Mowing graſs, *per* acre, 1*s.* 8*d.*
Firſt man's wages, 10*l.* 10*s.*
Second ditto, 7*l.*
A boy of 10 or 12 years, his board and cloathing.
A dairy-maid, 3*l.* 10*s.*
Other maids, 3*l.*
Women *per* day in harveſt, 6*d.* and board.
In hay-time, ditto.
In winter, 4*d.* and board.

IMPLEMENTS, *&c.*

A new cart, 3*l.*
A ſcythe, 2*s.* 6*d.*
A ſpade, 2*s.* 6*d.*
Shoeing, 1*s.* 4*d.*

PROVISIONS, &c.

Bread,	- -	1*d.*
Cheeſe,	- -	2
Butter,	- -	5½ ——— 16 ounces.
Beef,	- -	3½
Mutton,	- -	3
Milk,	- -	½*d.* a pint.
Potatoes	-	4 a peck.
Candles,	-	6½*d.*
Soap,	-	7

Labourers houſe rent, 15*s.*
——— firing, 30*s.*
——— tools, 5*s.*

From *Aſgarth* returning by *Craikhill*, I took the road once more to *Richmond*; and from thence to *Darlington*, in the county of *Durham*. At that town is a conſiderable manufacture of *Huckerback* cloths, in which the workmen earn from 10*d.* to 2*s.* 6*d.* a day, and women and children proportionably. One maſter manufacturer employs above 50 looms, and aſſerts, that he could eaſily ſet many more at work, to employ a number of women and children, if the idle part of the poor of the town could be perſuaded to turn induſtrious; but numbers of hands, capable of working, remain in total indolence; and that in general, there need never be an unemployed perſon in *Darlington*. They make their cloths up to 14*s.* a yard.

To morrow morning, I ſet out for *Raby Caſtle*, ſhall therefore, in the mean time, conclude myſelf, *&c. &c.*

Darlington.

LETTER XV.

RABY Caſtle, the ſeat of the Earl of *Darlington*, is ſituated in the midſt of a moſt extenſive territory, which gives his Lordſhip a very fine command around him. The caſtle is a noble maſſy building of its kind, uninjured by any modern ſtrokes inconſiſtent with the general taſte of the edifice; but, ſimply magnificent, it ſtrikes by its magnitude, and that idea of ſtrength and command one naturally annexes to the view of vaſt walls, lofty towers, battlements, and the ſurrounding out-works of an old baron's reſidence. The building itſelf (beſides the courts) covers an acre of land; the ſize may from thence be concluded. The ſouth front is very beautiful, the center of it is from a deſign of *Inigo Jones*; nothing in the Gothic taſte can be more elegant than the ſtile and proportion of the windows.

The rooms are very numerous, and more modern in their proportion and diſtribution than one would eaſily conceive to be poſſible within the walls of ſo antient a building; but by means of numerous paſſages and cloſets (many of both have been ſcooped out of the walls) and back ſtairs, the apartments are extremely convenient, well connected, and at the ſame time perfectly diſtinct: His Lordſhip has projected ſeveral improvements, which will add yet further to the ſpaciouſneſs and convenience of the apartments in general.

The bed-chambers and dreſſing-rooms are of a good ſize and proportion, and ſeveral of the lower apartments large and elegantly fitted up. One of the drawing-rooms is 30 by 20; and the adjoining dining-room, 51 by 21; the windows of both of plate-glaſs,

glaſs, and in the ſmalleſt and lighteſt of braſs frames. His lordſhip purpoſes enlarging the latter of theſe rooms. Near it, there is a rendezvous apartment, 90 feet long, 36 broad, and 36 high, a proportion that pleaſes the eye, at the very firſt entrance; it is however to be improved by an addition of 30 feet in length, by building, at one end of it, a circular tower, in the ſame ſtile as the caſtle; by which means the ſouth front will be greatly improved, and the room will receive not only an additional ſpace, but the light at bottom of a (circular bow) window, which it wants at preſent.

The park and ornamented grounds round the caſtle are diſpoſed with very great taſte. The lawns, woods, plantations, objects, *&c.* are remarkably beautiful.—Entering the lawn from the plantations near the houſe, the whole ſweep has a very fine effect. The dog-kennel, a gothic ornamented building, is ſeen on one ſide riſing out of a fine wood, and beautifying the ſcene much: Upon the hill to the right, the gothic farm-houſe, a ſimple but pleaſing deſign, in a very fine ſituation; in front, along the valley, ſeveral clumps of trees are ſcattered, and between them his Lordſhip's farm-houſe on a riſing hill; a building which greatly ornaments the grounds. This part of the lawn is finely incloſed on three ſides with thriving plantations. This leads into the extended part of the lawn, which is, for its extent, the moſt beautiful I have any where ſeen: The inequality of the ground is remarkably favourable to its beauty; it conſiſts of fine ſweeps of graſs, ſtretching away to the right and left, over hills moſt elegantly ſpread with plantations on one ſide, and preſenting to the eye a fine waving uninterrupted ſurface through a valley, on the other. It loſes itſelf in ſuch a manner among the woods, as to give room for the imagination to play, and picture an extent ſuperior to the reality.—In front, upon a fine riſing hill, is ſituated the farm-yard, with a moſt elegant gothic ſcreen to it.

From this hill, you look back on a very fine ſcene. To the left, the whole is bounded by a moſt noble range of planted hanging hills, which extend to the woods in front, ſurrounding the caſtle to the diſtant proſpect, in a moſt pictureſque manner: The hollow ſcoops of lawn are peculiarly beautiful: To the right, it has a noble ſweep through the valley, with a prodigiouſly extenſive proſpect over it to *Roſebury-topping*, &c. &c. &c. Nothing can be more beautiful than this whole view, which is compoſed of the moſt elegant diſpoſition of ground imaginable; the hanging hills ſpread with wood; the hollow ſcoops of graſs, ſpacious lawns, and diſtant proſpect upon the whole fill the eye, and pleaſe the imagination.

Winding up to the right, and moving along the terras, which is a natural one, but leads through an extenſive plantation, the views it commands are very fine. You look down upon the farm, and the hill upon which it ſtands, which waves through the valley in a moſt pleaſing manner; throwing your eye more in front, you catch a lake breaking upon the view in irregular ſheets of water, juſt over the tops of the lower woods; the effect moſt truly pictureſque. Upon the right, the whole valley is commanded, and the market town of *Staindrop* well ſituated among incloſures and ſtraggling trees.

Advancing, the proſpect varies, a fine ſweep of cultivated hill is ſeen upon the left, and the gothic farm-houſe, ornamenting all the ſurrounding grounds; Deſcending into the vale, you catch the town and church of *Staindrop*, moſt pictureſquely, among the trees. Further down, from among the ſloping woods, through which the riding leads, the caſtle is ſeen riſing moſt nobly, from a fore ground of wood, in a ſtile truly magnificent.

Croſſing this part of the lawn to the lower terras, you meet with grounds before unſeen, which are excellently diſpoſed; the plantations judiciouſly ſketched, and the views pleaſing.

The

The whole range of ground is ſeen to very great advantage, by riding along the new ſouthern plantation: You there command the whole, from the caſtle on one ſide to the hills beyond the farm houſe on the other; and the ſweep of plantations here appears very noble.—Upon the whole, I have no where ſeen plantations diſpoſed with more taſte—ſketched with more judgment for ſetting off the natural inequalities of the ground; and managed more artfully for preſenting, on ſmall ſpaces of land, a large extent of ſurface to the eye:—Nor can any thing of the kind be more beautiful than the lawn, which ſpreads over the hills and among the woods, ſo as to appear in different ſweeps of green, indenting in ſome places the woods, and breaking thro' them in others. Few objects in the ſtile of ornament, can be more agreeable in itſelf, or more ſtriking from its ſituation, than the farm-houſe, which is ſeen from moſt parts of the ground, and always to advantage.—But to leave theſe matters and come to huſbandry.

The Earl of *Darlington*'s experiments and improvements in agriculture are of an important kind, very applicable to common management, and conſequently of certain utility;—but firſt as a proof that his Lordſhip does not give intelligence from theory only, I ſhall inſert the particulars of his farm.

1080	Acres in all	8	Ploughs
430	Of ditto arable	20	Horſes
288	Meadow, that is mowing ground	18	Draught oxen
		6	Servants
357	Paſture or feeding	21	Labourers
£ 800	Rent	6	Boys.

He generally has about

75	Acres of wheat	50	Acres of turnips
45	—— of barley	6	—— of cabbages
165	—— oats	90	—— fallow.

His Lordſhip's courſes are,

1. Fallow
2. Wheat
3. Dung well for fallow again.
4. Barley.

With which the ſeeds are ſown. Another is,

1. Fallow
2. Wheat
3. Peaſe
4. Oats.

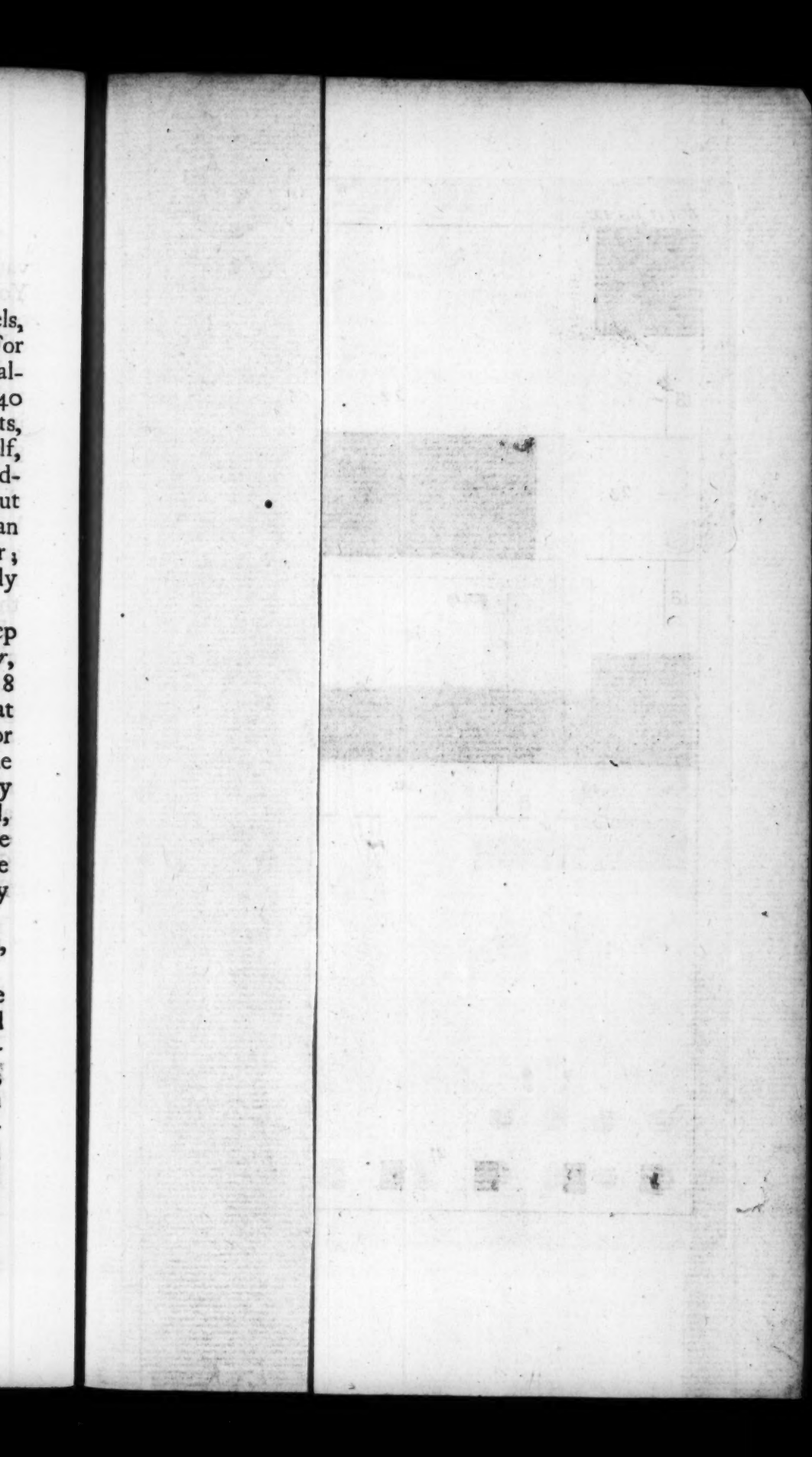
For wheat he ploughs five times, ſows two buſhels, and gains at an average from 28 to 38 buſhels. For barley after turnips, he ploughs but once, after fallow five times, ſows ſeven pecks, and gains from 40 to 50 buſhels; an extraordinary increaſe. For oats, only one ploughing, ſows four buſhels and an half, and reaps in return, about 45. For turnips, his Lordſhip ſtirs five times; always hoes them twice, but finds it ſomewhat difficult to procure men that can hoe them, in a perfectly neat and accurate manner; the medium value of his crops, 5*l*. Uſes them chiefly for ſtall-feeding oxen.

Tares, Lord *Darlington* tried for feeding ſheep with, in the ſpring: He ſowed them in *September*, and got them ready for the ſheep by *May-day*; 18 acres of them kept 120 ſheep ſix weeks from that time: This improvement is a very important one, for the great article of procuring ſheep feed late in the ſpring, is what has more than once puzzled many very attentive cultivators: It is to be apprehended, that no one food can be made to anſwer from the middle of *March* to the middle of *May*, which is the pinching ſeaſon; but, in all probability, tares may anſwer well for the latter part of that ſeaſon.

Buckwheat his Lordſhip once tried for his horſes, but did not find it to anſwer.

His management reſpecting manure, is much more maſterly than that of his northern neighbours, and principally by means of an excellently contrived farm-yard, in which he fodders all his cattle in winter; making thereby a vaſt quantity of dung. The plan upon which this yard, and all the adjoining conveniences are deſigned, is ſo very judicious, and ſo well contrived to anſwer every purpoſe it is deſigned for, that I cannot deny myſelf the pleaſure of laying a plan of it before the public. See plate VI.

1. The



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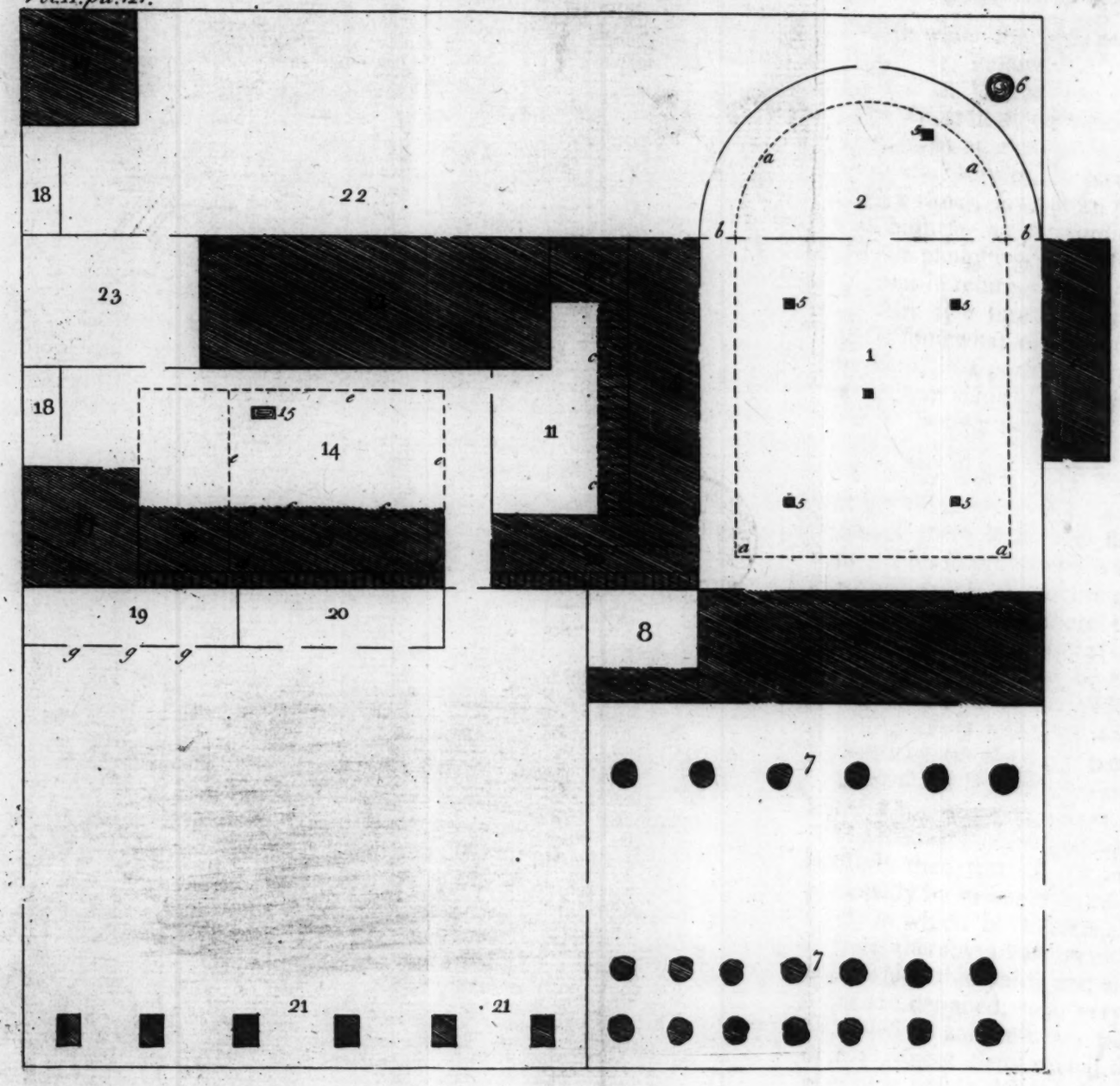

1. The principal yard, ſurrounded by a foot-way parted off by a rope, a. a. with ſteps b. b. over the wall into the other yard.
2. Another yard, with a way roped off as before, a. a. two ciſterns * * communicate through the wall with each yard.
3. The barn 90 feet long, with two thraſhing floors.
4. 4. Two ox-houſes for ſtall-feeding; each holding 14 oxen: The houſe, 14 feet wide, each ſtall ſeven feet, and the length 50.
5. 5. 5. 5. 5. 5. Small grated kennels above the lower parts of the yards, for the ſuperabundant urine to run off into a reſervoir, marked
6. In which ſtraw is thrown to ſoak, and emptied often, four feet deep, and 10 diameter.
7. 7. The corn ſtack yard.
8. The hog-yard, with doors into apartments, marked 9.—25 feet ſquare.
9. The lower part of this ſpace is the hog-ſties; above a rooſting place for poultry.
10. The working ox-houſe for 14.—It is 50 feet long.
11. A ſheep-yard, 50 feet long, and 21 wide in one part, and 15 in the other. b. is a covered ſhed for them to run under in bad weather, and c. c. low racks for hay, ſhedded from the weather.
12. The houſe, 90 feet long.
13. The ſtable——and
14. The ſtable-yard.——In theſe the horſes run looſe, their rack and manger at d. d. and a ciſtern of water at 15. There is a foot-way around the yard, parted from it by the rope, e. e. e. The ſheds extend as far as f. f.
16. A ſhed to keep carts, ploughs, harrows, rollers and other implements; under there is a rack and manger in it, and a yard roped off, that, upon an extraordinary occaſion, it may be applied to the uſe of a ſtable. Theſe two yards, *&c.* extend 90 feet.

17. 17. Two

17. 17. Two ſmall buildings, 30 feet ſquare, uſed as granaries.

18. 18. Spaces for chicken-yards, or any other uſe wanted for.

19. A coal pen open at top, with ſmall holes, g. g. g. for drawing out the coals with a hoe.

20. A ſpace for aſhes, built in the ſame manner as that for coals.

21. 21. Hay-ſtack-yard.

22. A ſmall graſs-yard walled in, for driving ſheep into, to part them, or draw off the lambs; likewiſe for ornament before the windows of the houſe.

23. The entrance-yard.

The leaſt attentive obſerver will doubtleſs remark, that convenience and real utility were much conſulted in building theſe offices. The barn is ſituated with the corn ſtacks on one ſide, from whence it receives, and the yards on the other to which it delivers; likewiſe adjoining, the fatting ſtalls, and draught ox-houſe for littering them, and but a little way from the ſtables, and hog-yard: All perfectly well contrived, as each of theſe places is in a conſtant want of ſtraw.

The horſes and cattle are well ſupplied with water, by means of reſervoirs.

No urine (the richeſt of all manures) is loſt either from the cattle under cover or in the yards; when it riſes under the fodder in the yard to a certain height, it is all conveyed to the reſervoir; as are the ſudds from the waſh-houſe.

The hay-ſtacks are well ſituated, for ſupplying the horſes and draught oxen.

The cow-houſe is in another place.

The ſheep yard is upon an excellent plan; its uſe is in ſevere weather and ſnow, their hay is kept dry in the racks, and the ſhed for them to retire under, excellent: At the ſame time, much valuable manure is made.

The

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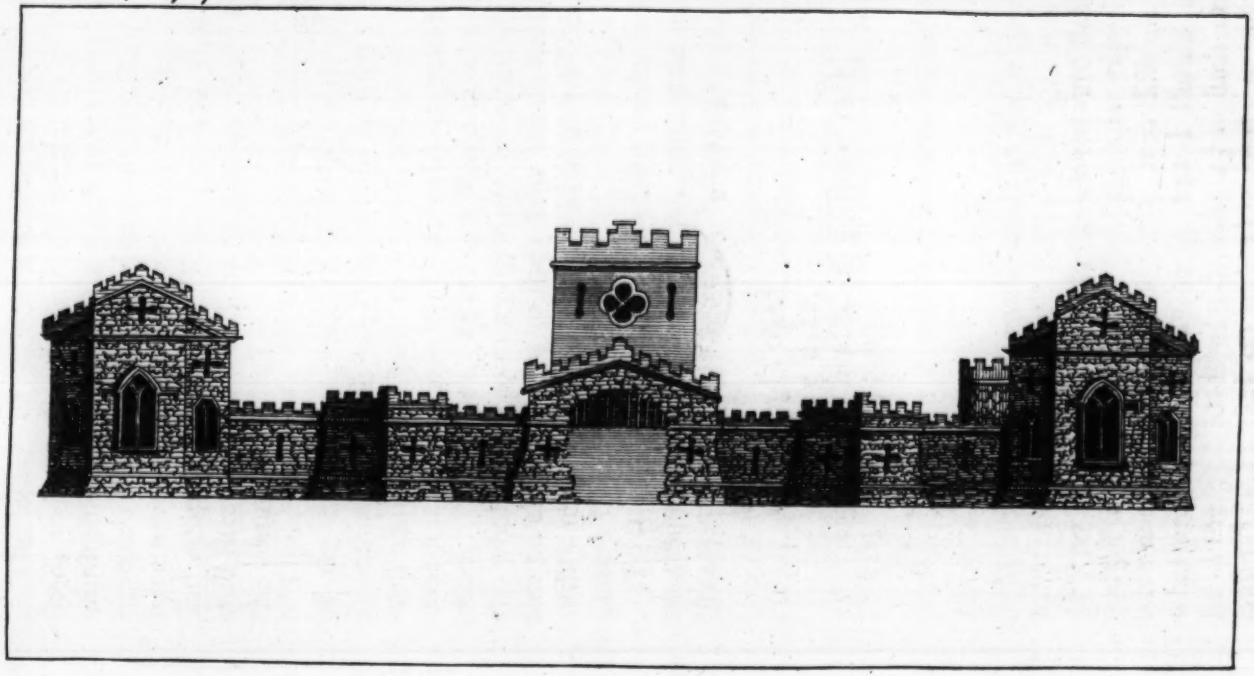

BRITISH MUSEUM
15
60
MAY

The ſcheme of the horſes having an open yard and ſhed, to move in, with water conſtantly in it, is an admirable contrivance; they are never tied up, but have full liberty, by which means his Lordſhip's horſes have never been troubled with any diſorders from his firſt adopting this plan. Their ſhed and yard are all well littered; and much more manure made than in the common method.

Upon the whole, I cannot but admire the ingenuity of the contrivance, and the forecaſt with which his Lordſhip (who planned the whole himſelf) has ſo well adapted each part to its reſpective uſe, and ſo well connected thoſe that mutually depend on each other. The front, which is a ſcreen on one ſide of the whole, has too much merit to be omitted; I inſert an elevation of it to ſhew how much beauty and utility may be united in theſe kind of edifices. See plate VII.

To ſhew the vaſt uſe of ſuch farm yards, it is only neceſſary to add, that, laſt year, the cattle his lordſhip wintered in this were the following:

20 Horſes
20 Draught oxen
18 Fatting ditto
52 *Scotch* beaſts, of 35 ſtone each,
And 2 Milch cows.

112

Which number of cattle made in the winter 4000 loads of dung, 26 buſhels each; which is better than 35 *per* head. The whole was carted into heaps, to complete the rotting; but as particular experiments have not been made of the waſte, it is difficult to ſay what proportion it may be in, but I ſhould apprehend the 35 loads would make 25 in ſuch order as commonly carried on to arable land; or, in other words, a quantity ſufficient for one acre and a half: And it certainly muſt be allowed, that the manuring that

that breadth of land from every head of cattle wintered, is an object of the utmoſt importance, and never, by any means, equalled in the common northern management.

But it ſhould be here remarked in general, that ſcarce any of this ſyſtem of management can be carried into practice, when the hay, according to the execrable management of many parts of *England*, particularly the north, is ſtacked about the farm, where it grew; for ſo large a ſtock of cattle cannot be kept together all winter without plenty of hay on the ſpot. His lordſhip ſtacks none in the fields, but all in yards adjoining the buildings, where it is eat. It is prodigious the benefit which would reſult from this practice becoming general, for if the feeding cattle with hay in the fields is attentively obſerved, it will always be found that they deſtroy near as much as they eat—that the land is poached and damaged—that the hay ſo deſtroyed turns not to any manure, being in no ſtate of putrefaction for dunging graſs land—and as to the dung of the cattle it is of trifling conſequence, if of any, for that manure which is laid on ſo thin as not to cauſe a fermentation is nearly uſeleſs. Keep 2000 ſheep upon 2000 acres of land, and take notice of the trifling uſe they are of in manuring it: I much queſtion whether it will ever be perceptible; but fold them on a part at a time, and the vaſt benefit will be at once apparent. So it is with feeding cattle upon hay in the field; the good is a trifle, but the benefit of giving them the ſame quantity in a farm yard confined, will occaſion the production of many loads of excellent manure, which, laid on the land in *proper quantities*, will be of deciſive utility *.

Nothing

* A very worthy friend of mine, who manages his paſtures in a neat and maſterly manner on a ſcale not large, will here remark, that with proper care of ſcattering the dung, and raking up the offal hay, the common practice would prove beneficial; but to this

Nothing is ſo difficult as to wean farmers from their prejudices: I have converſed with many very ſenſible and intelligent huſbandmen in the north of *England*, but could not bring one of them to agree with me in the expediency of ſtacking their hay at home: I ſhould however obſerve that I have ſeen a vaſt number of farms in this part of the kingdom, that have nothing deſerving the name of a farm-yard: In this caſe much of the blame lies on the landlord; for we cannot expect (where it is not the common cuſtom), that farmers will take the pains of making one at all events, as many in the ſouth do, by building high ſtubble ſtacks around their barns, for warmth, and feed their cattle no where but within them. To introduce the cuſtom, it is abſolutely neceſſary for gentlemen to build their tenants ſuch conveniences as are neceſſary for the enabling them to keep their cattle confined in the winter. A farm, one would ſuppoſe, muſt have a ſtable—perhaps an ox-houſe, a cow-houſe, a hog ſtye or two, and, very likely, more than one barn: All that is neceſſary is the raiſing ſuch (or whatever the buildings may be) around one ſpot of ground for a farm-yard, by which means an incloſure would be made; and that might tempt the farmer to uſe it. The cuſtom however ſhould be introduced, let the means be what they may.

His lordſhip uſes a conſiderable quantity of lime as manure; he lays two chaldrons *per* acre on land long in tillage, but leſs on new land; for turnips three

this I anſwer in the firſt place, that the care and attention requiſite for this method are too great for the common farmer; but the method I propoſe is now the practice of many counties in the ſouth of *England*. Before we perſuade farmers to keep their fields like lawns, we muſt make them give up their ſlovenlineſs. *Secondly*, the dung ſo ſcattered (though a very good method) is yet left ſo thin over the ſurface, as ſtill to be liable to the former objection of doing no good, or at leaſt very trifling. *Thirdly*, the waſte of hay is the ſame, only it is carried to the dunghill in one caſe, and left to do miſchief in the other.

chaldrons;

chaldrons;—for wet ſpewy graſs, he finds lime and aſhes a very great improvement.

Grey peaſe his lordſhip ſowed, as an experiment, the end of *March*, and ploughed them in juſt before flowering; they proved an excellent dreſſing for wheat.

Paring and burning he uſes for wet land; but breaks up that which is dry by ploughing.

His graſs-land is managed with great judgment and attention, both in draining and manuring. Laſt year 347 acres kept the following cattle, from *May* 17th to the end of *October*.

N° 1.	23 Fat oxen.	N° 8.	108 Ewes.
2.	18 Draught oxen	9.	135 Shearings.
3.	37 *Scotch* beaſts.	10.	170 Lambs.
4.	14 Cows.	11.	29 *Scotch* ſheep.
5.	6 Heifers.	12.	20 Horſes.
6.	6 Yearlings.	13.	7 Fillies.
7.	75 Fat ſheep.		

And according to the prices of the country (as under), this number of cattle amounts in price as follows. The whole time is 24 weeks.

				l	*s.*	*d.*
N° 1.	23, at	3*s.*		82	16	0
2.	18, at	2*s.*		43	4	0
3.	37, at	1*s.* 6*d.*		61	0	0
4.	14, at	3*s.*		50	8	0
5.	6, at	3*s.*		21	12	0
6.	6, at	8*d.*		4	16	0
7.	75, at	9*d.*		62	10	0
8.	108, at	4*d.*		43	4	0
9.	135, at	4*d.*		54	0	0
10.	170, at	3*d.*		51	0	0
11.	29, at	3*d.*		8	14	0
12.	20, at	3*s.*		72	0	0
13.	7, at	3*s.*		25	4	0
				580	8	0

The

The rent of the 347 acres at 16*s. per* acre, 277 10 0

Deducted from the amount of feeding cattle, there remains profit, £. 302 18 0

His lordſhip's cows are of the polled breed, that is without horns; his inducement for having them was the ſafety of his young plantations, but they are found on experience to be excellent in giving milk: One with another, and upon the average of feed, they give eight gallons each *per* day. They are taken into the yard the beginning of *November*, and fed with cabbages and ſome hay, about half a ſtone *per* day.

Sheep, his lordſhip finds very profitable; that his breed is good may be ſeen from the profit. In 1767, he had two lambs *per* ewe round, at 15*s.* a lamb; and the ewe's wool at 6*s.* (upon a medium it is 12lb. *per* ſheep). This is 1*l.* 16*s. per* head profit, or 36*l.* a ſcore. But on an average of years, they have only a lamb and a half each, which is 1*l.* 8*s.* 6*d.* a head, or 28*l.* 10*s*, a ſcore profit. In bad weather in winter, they are kept on hay.

In Lord *Darlington*'s manner of farming, five horſes and four oxen are neceſſary for the culture of 100 acres of arable land: At firſt ploughing he uſes four oxen and one horſe in a plough, but afterwards three horſes, and when in tilth only two. Both three or two without a driver.——Upon the moſt attentive obſervation, he prefers oxen greatly to horſes upon ſtrong land

He lays it down moſt juſtly as a rule, to break up all his ſtubbles, whether for a crop or a fallow, directly after harveſt; and ploughs them eight or nine inches deep

I mentioned, his lordſhip's draining his graſs-land: He has executed a vaſt quantity of this work, and in an exceeding good way. When he began his farming, he found his grounds divided into a multiplicity

of

of ſmall cloſes by ſtone walls; he threw them all down, and with the materials drained the land, which was before much damaged by ſuperflous water. He cuts main ones three feet deep, and three feet and an half wide at top, and two at bottom; at each ſide at bottom a ſtone is laid and covered by another, and then filled up with ſmaller ſtones, in this manner. Plate IV. Fig. 2.

The expence, digging and filling, is 1*s.* 4*d.* a rood, beſides leading the ſtones. The branches he cuts two feet deep, two feet wide at top, and one at bottom, and fills them in the ſame manner; the coſt 11*d per* rood, beſides leading. The general rule is to make them from four to ſeven yards aſunder. The improvement is prodigious, the fields, which before were poiſoned with water, ſo as to prevent any good crops, and rendered ſo wet and boggy as ſcarcely to bear a ſheep without damage, will now admit the tread of a great ox in winter without poaching:— Draining is undoubtedly the firſt work to be undertaken in the improvement of moiſt or wet ſoils; and thoſe who think to effect that work by manuring alone, or cutting a few open drains, will certainly find themſelves miſtaken, for twenty ſhillings, laid out in manuring drained land, will go as far as half as many pounds before the land is drained, nor did I ever remark open drains doing the buſineſs effectually.

His lordſhip's method of laying his land down with graſs ſeeds muſt not be omitted; he ploughs the land very fine, lays it perfectly level; and ſows,

17lb. of white *Dutch* clover.
14 buſhels of clean hay ſeeds.
1½lb. of rib-graſs, and
1½lb. of trefoil to each acre; by which means his land is ſoon covered with a thick and excellent herbage.

Cabbages, his lordſhip has tried as food for cattle three years: His firſt experiment on them was in the year

year 1766, when he had eight acres of the large *Scotch* ſort: The ſoil is a rich loam graſs land, pared and burnt, and ploughed four times. They were planted the end of *June* in rows, three feet aſunder, and two feet from plant to plant in the rows. They were horſe-hoed twice, and hand-hoed in the rows once. When in perfection they amounted to 14lb. each upon an average. Were all given to milch cows; no butter ſuperior, nor kept better; but the precaution of breaking off the looſe leaves was taken, and only the ſecond heart given to the cows. Other cattle eat the leaves.

In 1767, his lordſhip had 10 acres in the ſame field. The land was winter-fallowed and ploughed three times. They were planted the end of *May* as before, and managed in all reſpects the ſame; the average weight, *per* cabbage, was alſo 14lb. They were all given to cows, and the former experience confirmed that the butter from them is excellent, and has no taſte but what is perfectly agreeable. Lady *Darlington* aſſured me, that ſhe had attended particularly to the effect of the cabbages on the butter, expecting to find it taſte, but was agreeably ſurprized at the fine flavour of it, ſo much ſuperior to that commonly made in winter.

This year, 1768, his lordſhip has five acres, upon a rich loam, pared and burnt, and ploughed after it only once: They were planted, the end of *June*, by trench-ploughing furrows at three feet diſtance, laying the plants into them, and then covering them by a common ploughing. They were horſe and hand-hoed the ſame as before; but the medium weight not above 10lb. which his lordſhip attributes to their having only one ploughing; for want of more they had not pulverized earth enough to ſtrike root into. Several of them weighed from 20 to 25lb. I ſhould, however, obſerve that they are not near their full growth.

His lordſhip, upon the whole, has made ſeveral important improvements upon the agriculture of his neighbourhood; and carried his own methods into execution with a ſpirit ſeldom found in the beſt cultivated countries: His farm-yard is an excellent contrivance;—his hollow draining is exceedingly well performed;—his cabbage culture good; and, in a word the whole ſyſtem of his huſbandry judicious, neat, and ſpirited. The county of *Durham* owes no ſlight obligation to this firſt of her farmers for ſetting ſo noble an example. That it is valuable, will appear from viewing the common huſbandry of the neighbourhood.

The ſoil is much the ſame as his lordſhip's, that is, either a gravel or a rich loam: The rent about 16*s.* an acre. Farms are about from 80*l.* to 100*l.* The courſes are,

1. Fallow 2. Wheat 3. Oats.
And, 1. Turnips 2. Barley 3. Oats.

For wheat they plough four times, ſow two buſhels, in *September*, and gain on an average about 25. For barley, they plough but once, ſow two buſhels and an half, in *April*, and gain at a medium about 35 buſhels. For oats, they plough but once, ſow four buſhels about *March*, and get at a medium, about 40 buſhels. They ſow a few peaſe, ſow buſhels and an half in *March*, the crop about 30. Some rye is ſown, generally on paring and burning, plough but once; but otherwiſe four times: They ſow two buſhels and an half, and get, on an average, after either preparation, 40 buſhels *per* acre.

For turnips they pare and burn, and plough once, but in fallowing, ſtir four times; they never hoe them. The mean value, *per* acre, about 3*l.* 10*s.* and uſe them for fatting both oxen and ſheep, they draw them for cows and calves, and throw them on graſs lands.

They know nothing of clover.

They

They are not in general allowed to plant potatoes.

The management of their manure is very faulty, for their hay is all ſtacked about the fields, and conſequently they have little notion of raiſing much in their farm-yard.

The paring and burning is done at the expence of,

		£	s	d
The paring,	—	0	11	6
Burning,	—	0	5	0
Spreading,	—	0	1	0
		£0	17	6

No folding of ſheep.

Good graſs land will let for 30*s.* an acre; they apply it to various uſes, and much hay is made, and ſold off the farms; but lord *Darlington* does not allow it upon his eſtate. They reckon an acre and an half neceſſary to ſummer a cow; and an acre will keep five wethers, or four ewes and lambs.

Their breed of cattle is the ſhort horned kind. Their ſwine they fat up to about 24 ſtone.

As to the profit of cows, they calculate on an average that cows pay in butter, cheeſe, and calf, about 5*l.* a head; they give in general five gallons of milk a day. To 10, they do not keep above three or four ſwine. The winter food of the dry ones is ſtraw, and of the others hay; of which they eat upon an average two tons. They let the calves ſuck about a month for the butcher, and three weeks for rearing. In the common management a dairy-maid will look after 14.—The joiſt in ſummer is 30*s.* in winter in the fields 10*s.* They are kept in winter generally in the fields.

They reckon the profit of fatting a beaſt of 50 ſtone at about 50*s.* or 3*l.*

Of ſheep they keep from 30 to 200; the profit 13*s.* a head. Their keeping through winter and the ſpring

is graſs, but in very bad weather, on bad hay. The average weight of wool about 9lb.

In the management of their arable lands, they reckon eight horſes and as many oxen neceſſary for 100 acres of ploughed ground, if the ſoil be clay; but if gravel, four of each will do. In the firſt they uſe two oxen and two horſes in a plough, in the laſt three horſes; and the common quantity they do in a day is about three fourths of an acre.—To their horſes they generally give two pecks of oats each *per* week the year round. The ſummer joiſt is 40*s.* and they reckon each horſe, in all expences, coſts about 4*l.* 10*s.* or 5*l.* a year.

Their working oxen they feed on ſtraw in winter, and work them on it. They reckon them better and more profitable than horſes.

The time of breaking up the ſtubbles for a fallow is after barley ſowing: The price of ploughing is 4*s.* an acre, and the depth ſix inches.

The hire of a cart, three horſes and a driver, is 5*s.* a day.

In the hiring and ſtocking of farms they reckon 400*l.* neceſſary for one of 100*l.* a year.

Land ſells at 35 years purchaſe. There are ſome freeholds of 100*l.* a year, *&c.*

Tythe is generally compounded, wheat pays 6*s.* an acre, barley, 4*s.* 6*d.* and hay 2*s.*

Poor rates 6*d.* in the pound. The employment of the poor women and children is ſpinning worſted; at which a woman earns about 5*d.* a day. Moſt drink tea.

The farmers carry their corn about eight or ten miles.

The general œconomy will be ſeen from the following ſketches. One farm conſiſts of

240 Acres in all	£ 180 Rent
80 Arable	10 Horſes
160 Graſs	6 Oxen
	10 Cows

10 Cows
5 Fatting beaſt
24 Young cattle
150 Sheep
2 Men
2 Boys
2 Maids
3 Labourers
2 Ploughs
2 Carts.

Another, 100 Acres in all
30 Arable
70 Graſs
£ 75 Rent
5 Horſes
4 Oxen
6 Cows
2 Beaſts
18 Young cattle
60 Sheep
1 Man
1 Maid
1 Boy
1 Labourer
2 Ploughs
1 Cart.

Another, 57 Acres in all
16 Arable
41 Graſs
£ 40 Rent
2 Horſes
2 Oxen
3 Cows
2 Fatting beaſts
8 Young cattle
30 Sheep
1 Boy
1 Maid
1 Plough
1 Cart.

Another, 80 Acres in all
60 Graſs
20 Arable
£ 50 Rent
2 Horſes
2 Oxen
4 Cows
10 Young cattle
50 Sheep
1 Man
1 Maid
1 Plough
2 Carts.

Another, 150 Acres in all
50 Arable
100 Graſs
£ 100 Rent
6 Horſes
6 Oxen
12 Cows
8 Fatting beaſts
30 Young cattle
100 Sheep
2 Men
1 Boy
1 Labourer
2 Ploughs
2 Carts.

LABOUR.

In harveſt, 1*s.* to 2*s.* and ſmall beer and milk.
In hay-time, 1*s.* 2*d.* and ale and beer.
In winter, 1*s.*
Mowing graſs, 2*s.* to 2*s.* 6*d.*
Ditching, 5*d.* a rood.
Threſhing wheat, 3*d.* *per* buſhel.
——— barley, 2*d.*
——— oats, 1½*d.*
——— beans, 1½*d.*
Head-man's wages, 12*l.* to 14*l.*
Next ditto, 11*l.*
Boy of 10 or 12. 6*l.*
Dairy-maid, 5*l.*
Other ditto, 4*l.*
Women *per* day in harveſt, 1*s.* 1*d.* and ſmall beer and milk.
——— in hay-time, 6*d.* and ditto.
——— in winter, 4*d.* and 5*d.*

IMPLEMENTS.

No waggons.
A car, 7*l.* 10*s.*
A plough, 1*l.* 2*s.*
A harrow, 10*s.*
Very few rollers.
A ſcythe, 3*s.* to 5*s.*
A ſpade, 3*s.* to 4*s.* 6*d.*
Laying a ſhare, 9*d.*
——— a coulter, 9*d.*
Shoeing, 2*d.*

PROVISIONS, &c.

Rye-bread, — — 1*d.*
Cheeſe, — 2*d.* and 2½*d.*
Butter, — — 7½—18 oz.
Beef, — — 3½
Mutton, — — ditto.
Veal, — — ditto.

Pork,

Pork, — — 4*d.*
Milk, — — ½*d. per* pint.
Potatoes, — 6*d. per* peck.
Candles, — 6*d.*
Soap; — — 6*d.*
Labourer's houſe-rent, 35*s.*
Their firing, 25*s.*
Their tools chiefly found.

LETTER XVI.

FROM *Raby* to *Durham* the land is in general very good, letting ſo high as from 15*s.* to 3*l.* but the average is not above 21*s.* or 22*s.* Farms in general under an hundred a year.

About that city there is much muſtard cultivated: The farmers ſow it alone, on good rich moiſt land; and on that which is pared and burnt. They get from 30 to 100 buſhels *per* acre; and the price varies from 10*s.* to 20*s* a buſhel: Some crops worth 100*l.* an acre have been known. When once muſtard has been ſown on a piece of land, it can never be got out again: In tillage it riſes with every crop that is ſown, which obliges the farmers to lay down ſuch lands to graſs, which ſmothers it, but if broke up again centuries afterwards, a crop of muſtard is ſure to riſe.

Taking the road to *Newcaſtle*, we ſtopped to view the ornamented grounds of ——— *Carr*, Eſq; at *Cocken*, which are laid out with ſo much taſte, that it is a great omiſſion in any traveller to paſs without ſeeing them; that Gentleman and his Lady, Lady Mary *Carr*, have both given much attention to the aſſiſting nature in their very beautiful ſpot, by rendering her acceſſible.

Cocken has the advantage of a fine river, in ſome places very rapid, and in others calm and ſmooth; it takes a very fine waving courſe through the grounds, and has the noble advantage of a various ſhoar, in ſome places compoſed of noble rocks, in others of hanging woods, and alſo of cultivated incloſures: Art has judiciouſly aimed at nothing more than enabling the ſpectator to view theſe beauties to the beſt advantage.

The

The firſt point to which we were conducted, is a ſeat in a ſmall circular plot, among the wood, north of the houſe, from which *Cheſter* ſteeple is caught in a very pictureſque manner, between two projecting hills of woods: The ſpot is on the brink of a precipice, at the bottom of which the river bends very finely: The country is in general wild and uncultivated, but to the left is a hill of wood, which varies the ſcene.

Winding a little to the left, the walk leads to the dairy, from which, though very near the ſeat juſt deſcribed, the view is at once quite different. The country is now cultivated, the river divides, and you command it both ways. To the right is a very fine ſcar of rock, nobly crowned with pendent wood.

You are next conducted down the hill, and purſue the walk around a fine large meadow upon the banks of the river; it then enters a wood under a moſt romantic wall of rock; the walk (a terraſs on the edge of the river) is totally the work of art, being cut out of the rock with much difficulty, and at a great expence. The romantic ſcenery of theſe rocks is exceedingly fine, for oaks, elms, and other trees grow out of every cleft to a great height, and hanging over your head, almoſt threaten you as you move. The wild imagination of *Salvator* has ſcarcely pictured any thing more ſtriking, or in a more ſpirited ſtile than this variety of wood—breaking forth from the craggy clefts and chaſms of theſe noble rocks: This intermixture of rock and wood is truly romantic and pictureſque. The river aids the general effect, by the rapidity of its current; for raging over rocks and ſtones, the roar is in uniſon with its ſhoar, and all together tend ſtrongly to impreſs upon the mind an idea of awe and terror.

Advancing through this noble ſcene, the walk leads through a graſs dale, the rocks are loſt, and the whole ſcene varied: On one ſide the river is a hill covered with wood; and you view the other through a tall

ſcat-

ſcattered hedge in a moſt pleaſing manner; it is a projecting rock, with a fine ſcattering of ſhrubby wood beautifully variegated. Here you ſhould turn and view the rocks you have left; the ſun ſhining on them gives their reflection, in the ſmooth parts of the river, in a ſtile very pictureſque.

Still advancing, you catch in front among the wood a ruin on the banks of the river, half covered with ivy, and backed nobly with wood; the river rapid and romantic, under a new wall of formidable rocks. Juſt before you come to the abbey, you may remark an old oak, ſo connected with rock, that one may almoſt call it half wood and half ſtone.

Oppoſite the abbey the rocks give a fine curve, and under them the river and terraſs wind in the moſt beautiful manner: It is here quite an amphitheatre of wood and rocks; wild, romantic, and ſublime.

Seating yourſelf on a bench upon the little hill under the rock with en elm in front, the view is very ſtriking. To the right the wall of rocks preſents its bold front, the river loſing itſelf under them, and the oppoſite ſteep of wood, in the moſt beautiful manner. To the left a fine wave of woody hill; the river, rapid in its courſe, fills your ear with the ſound of its current.

Coming to the turn of the walk, the proſpect back upon the rocks is prodigiouſly fine: They are ſeen as it were in perſpective, and their tops, all crowned with oaks, have a noble effect.

Winding up to the alcove on the hill to the right, you ſee a prodigious fine range of ſteep woods, hanging over broken rocks, in a ſtile peculiarly noble: At a diſtance you catch a ſcar of rock quite emboſomed in a thick wood: The river winds through the valley beneath, and breaking into ſeveral diſtinct ſheets of water, throw a beautiful variety over this romantic ſcene; it loſes itſelf to the left under another ſweep of fine hanging woods: You look down upon the ruined abbey, on the oppoſite banks of the river, in a hol-

a hollow, beautifully picturesque. Above it, rises in front a fine waving hill cut into inclosures; and over all, an extensive distant prospect. Upon the whole, the view is truly beautiful.

From hence, crossing a few inclosures to come again into the ornamented grounds, the path you enter winds on the brink of a woody precipice, upon which you look in a very romantic pleasing manner. It leads down to the river (here a smooth and gentle current) through a wild rugged way, and there brings you to another shore of pendent, craggy, broken rock, fringed with wood, in a picturesque manner: In one place, almost under the dairy, it bulges forth in a vast projecting body, almost threatening to thunder into the river, and obstruct every drop of its stream. A noble scene.—The walk takes a winding course through a thick wood, to the terras in front of the house, from which the view is totally different from any of the preceding; it looks down upon a deep winding valley, quite filled with wood: A fine bending hollow—The noise of the river at bottom raging over the rocks is heard, but no where seen; nor can any thing be more romantic than this effect: For looking down into the hollow, without perceiving the water, the imagination at once takes fire, and pictures a horrible depth of precipice, far beyond the truth; but in which it is somewhat assisted, by the thickness of the wood breaking the line of sound.

Upon the whole, *Cocken* has received noble gifts from nature, and the assistance she has had from art has been the work of an elegant fancy, conducted by as correct a taste.

In the house are several pictures, which please the lovers of that noble art.

Trevisana. *Lot* and his daughters. The colouring is strong, and the expression spirited; Nor is it wanting in the effect of the clear obscure.

Rape

Rape of *Proſerpine*. The colouring not amiſs.

Diana and *Endymion*. Good.

Acis and *Galatea*. Expreſſive attitudes.

Venus attiring. Happily delicate and expreſſive; the roundneſs of the limbs and the beauty of the naked are ſtriking: The preſſure of her hand on her boſom is fine; and *his* want of attention characteriſtic of *ſuch* a ſituation. It is a copy from *Guido*.

Bacchus and *Ariadne*. The attitude is very well caught; the colouring, and the naked of *Ariadne*'s body, are pleaſing.

Jupiter; and *Juno* in the *Ceſtus* of *Venus*. Her attitude is elegant, and the whole beautiful.

Hercules and *Omphale*. The colours, naked, and attitude good.

Viviano. Architecture in perſpective, two pieces. Very fine, brilliant, and ſpirited.

Treviſana. Portrait of the late Mr. *Carr*, nobly ſpirited.

Unknown. School-miſtreſs in her ſchool. Fine expreſſion; the girls and boy are well done; the girl reading and the other knitting very natural. The miſtreſs the leaſt ſpirited in the piece.

Ditto. An old man feeding his family with cheſtnuts. Very fine, ſpirited, and natural. The minute expreſſion is ſtrong: But the diffuſion of light appears to be unnatural, to proceed from no viſible ſource.

Ditto. Two fruit pieces. Very fine.

Ditto. Two pieces of dead game. Natural.

Ditto. Two heads. Fine.

Ditto. Landſcape; a cavern. Fine and brilliant.

Ditto. A philoſopher reproving his copyer. Very fine and natural; the airs of the heads well preſerved, and the hands excellently done. A copy.

Ditto.

Ditto. Three ſmall landſcapes. Good.

Ditto. A large landſcape; rocks and water. Very fine. The cattle and figures excellent; —minutely done.

Ditto. Ditto of rocks, with a ſtraggling branch with the light behind it. Fine and ſpirited.

Ditto. Three ditto in a dark ſtile. The light is well done, and much ſpirit in the piece.

Ditto. One ditto, their companion. Exceedingly fine. The perſpective and keeping ſtriking.

Ditto. Two ditto, ſomething in the ſtile of *Zuccarelli.* Brilliant and pleaſing.

Ditto. A ditto, rocks, with a trunk of a tree in water. The rocks fine, and the water excellent:

Ditto. Two ditto in round. The cattle—the attitudes of the figures—the architecture and the trees, all have merit.

Ditto. Large landſcape: It is in a dark ſtile, but good.

Salvator Roſa. A water fall. Spirited and alive.

Another; rocks and wood. Good; but does not appear to me to equal the firſt.

Pouſſin. Large landſcape. In a fine but gloomy ſtile.

From *Cocken* to *Newcaſtle* the land is in general good, and lets very high. That town is too famous in the path of trade to require from me a particular deſcription: Many particulars, relative to its commerce, I tried to get, but in vain; ſuch as I procured are inſerted in a very few words; but I can anſwer for the genuineneſs only, in receiving my intelligence from ſenſible inhabitants.

This town is ſuppoſed to contain 40,000 ſouls, and to employ of its own, 500 ſail of ſhips, 400 of which are colliers. The corporation have an eſtate of

13,500*l.*

13,500*l.* a year, and allow their mayor 1200*l.* a year *.

Theſe particulars will by no means ſatisfy you—they are far from ſatisfying myſelf, but they are all I could procure.—I wanted to be informed of the tonnage of their ſhipping, the number of ſailors employed, the nature and extent of their foreign trade, the degree of increaſe or decreaſe, and at what periods, with many other circumſtances.—I could inſert, in the common hackneyed ſtile, *That* Newcaſtle *is a place of very conſiderable trade, her merchants poſſeſſing a very extenſive correſpondence, exporting this, that and the other, and importing ſuch and ſuch commodities*, &c. &c. Theſe are the *general* accounts we meet with in books of geography, copied from one to another, till a man of any reading is diſguſted with the impertinence. I may be trifling and abſurd, but I will never give you ſuch *pages of inanity* as theſe.

The people employed in the coal mines are prodigiouſly numerous, amounting to many thouſands; the earnings of the men are from 1*s.* to 4*s.* a day, and their firing. The coal waggon roads, from the pits to the water, are great works, carried over all ſorts of inequalities of ground, ſo far as the diſtance of 9 or 10 miles. The track of the wheels are marked with pieces of timber let into the road, for the wheels of the waggons to run on, by which means one horſe is enabled to draw, and that with eaſe, 50 or 60 buſhels of coals. There are many other branches of buſineſs that have much carriage in a regular track, that greatly wants this improvement, which tends ſo conſiderably to the lowering the expences of carriage.

About five miles from *Newcaſtle* are the iron works, late *Crawley*'s, ſuppoſed to be the greateſt manufactory of the kind in *Europe*. Several hundred hands

* Sir *Walter Blacket*, when he ſerves that office, takes nothing.

are

are employed in it, inſomuch that 20,000*l.* a year are paid in wages. They earn from 1*s.* to 2*s.* 6*d.* a day; and ſome of the foremen ſo high as 200*l.* a year. The quantity of iron they work up is very great, employing three ſhips to the *Baltic*, that each make ten voyages yearly, and bring 70 tons at a time, which amount to 2100 tons, beſides 500 tons more freighted in others. They uſe a good deal of *American* iron, which is as good as any *Swediſh*, and for ſome purpoſes much better. They would uſe more of it, if larger quantities were to be had, but they cannot get it. A circumſtance the perſon did not ſufficiently explain, but which, in the mere outline, is worthy of remark.

They uſe annually 7000 bolls of coals, at 16 buſhels each.

They manufacture anchors as high as 70 cwt. carriages of cannon, hoes, ſpades, axes, hooks, chains, &c. &c.

In general their greateſt work is for exportation, and are employed very conſiderably by the *Eaſt India* Company: They have of late had a prodigious artillery demand from that Company.

During the war their buſineſs was extremely great: It was worſe upon the peace; but for anchors and mooring chains the demand theſe laſt 7 or 8 years has been very regular and ſpirited. Their buſineſs in general, for ſome time paſt, has not been equal to what it was in the war.

As to the machines for accelerating ſeveral operations in the manufacture, the copper rollers for ſqueezing bars into hoops, and the ſciſſars for cutting bars of iron—the turning cranes for moving anchors into and out of the fire—the beating hammer, lifted by the cogs of a wheel; theſe are machines of manifeſt utility, ſimple in their conſtruction, and all moved by water. But I cannot conceive the neceſſity of their executing ſo much of the remaining work by manual labour.

labour. I obſerved eight ſtout fellows hammering an anchor in ſpots, which might evidently be ſtruck by a hammer, or hammers, moved by water upon a vaſt anvil, the anchor to be moved with the utmoſt eaſe and quickneſs, to vary the ſeat of the ſtrokes. It is idle to object the difficulty of raiſing ſuch a machine; there are no impoſſibilities in mechanics: An anchor of 20 tons may, undoubtedly, be managed with as much eaſe as a pin. In other works beſides the anchor-making, I thought I obſerved a waſte of ſtrength.

In the road from *Newcaſtle* to the works, upon riſing the firſt hill, there is a moſt noble view into an extenſive vale: cultivated riſing incloſures, ſurrounding a prodigious fine water, (the river *Tyne*) which has the appearance of a lake, ſeveral miles long, and of a noble breadth. In the middle a very fine iſland of an irregular oblong ſhape, ſcattered with trees: The whole water enlivened with numerous boats, ſailing to and from *Newcaſtle:* The river loſes itſelf at each end, under waving hills in a beautiful manner. Upon the whole it has the appearance of one of the fineſt lakes in the world.—At *Newcaſtle*,

PROVISIONS.

Beſt Rye bread, *per* lb. —	1*d.*
Worſt ditto, 10lb. for —	6
Butter, 20 oz. —	9
Cheeſe, —	1½
Beef, — —	3
Mutton, —	2½
Veal, — —	2
Milk, *per* pint, —	½
Potatoes, *per* peck, —	3
Coals, *per* chaldron,	4*s.*
Poor's houſe-rent, from 20 to	40*s.*
Their firing, —	30*s.*

Land

Land around *Newcaſtle*, letts, as may be ſuppoſed, extravagantly, from 40*s* to 5*l*. an acre.

As I enter the extenſive county of *Northumberland* to-morrow, you muſt allow me to make the agriculture of it the ſubject of my next letter.

I remain, in the mean time, &c.

Newcaſtle.

LETTER XVII.

AT *Goſworth*, in the road to *Morpeth*, the ſoil is chiefly loamy—part ſandy, and but little clay; the average rent is about 20*s.* an acre; farms riſe from 50*l.* a year to 400*l.* Their courſes are,

	1. Fallow	2. Wheat	3 Oats.
And,	1. Fallow	2. Maſlin	3. Oats.
Another,	1. Fallow	2. Wheat	3. Beans.
Alſo,	1. Turneps	2. Barley	3. Oats.

For wheat they plough five times, ſow 2 buſhels about *Michaelmas*, and reap, upon an average, 10 or 12 thrave, each thrave 2 ſtooks, or 6 pecks, that is 16 buſhels and an half. For barley they plough on ſtubble three times, after turneps twice, and on a fallow five times; ſow 2 buſhels and $\frac{1}{2}$ in *April*, and reap 15 thraves, at 2 buſhels, or 30 buſhels. For oats they give but one ploughing, ſow 2 bolls and a canning, or 4 buſhels and $\frac{1}{2}$, after barley, and gain in product much the ſame quantity as of that grain *. They plough but once for beans, ſow them broad-caſt, and under furrow in *February*, never hoe; the medium crop about 25 buſhels——They are all ſold for the colliery horſes. For peaſe, but one earth, ſow in *March*, and get from 16 to 20 buſhels. For rye they fallow 3 or 4 times; but after barley plough but once; ſow 2 buſhels, and gain in return 30. For turneps they ſtir four times; hoeing is but coming in, for many do not practiſe it at all. The medium value *per* acre is, for the hoed ones, 4*l.* 4*s.* the unhoed, 3*l.* an argument ſo ſtrong for hoeing, that one

* I have for once given the jargon of country meaſures; a vile abuſe, that calls aloud for redreſs.—You ſhall be plagued with them no more.

would

would imagine it ſufficient to convince the blindeſt and moſt prejudiced of the cultivating tribe.—They uſe them for both ſheep and beaſts.

They ſow a little rape on new land: Paring and burning, and one ploughing, is the preparation—never feed it: The average crop of ſeed half a laſt.

No clover uſed.

They cultivate a few tares for the feeding horſes. Likewiſe a little buckwheat, but it is not reckoned profitable.

Potatoes they plant after two or three ploughings: Slice them into ſetts. Twelve buſhels will plant an acre, at one foot ſquare. They hand-hoe them twice, and hand-weed them occaſionally. The crops are uſually worth from 7*l.* to 10*l.* at 9*d.* a buſhel. Wheat or rye ſucceeds; of which they have finer crops than common.

As to manuring, that of paring and burning is one important point; the expence,

	s.	*d.*
The paring ——	9	6
Burning ——	2	6
	12	0

They never fold their ſheep, nor chop their ſtubbles; but their hay they ſtack at home. Dung they buy at *Newcaſtle*, from 1*s.* to 2*s.* for a two-horſe cart load.

Good graſs will let for 30*s.* an acre. They apply it both to dairying and fatting: Three acres will keep two cows the ſummer, and one acre three or four ſheep. They manure it carefully. The breed of cattle ſhort horned, which they prefer.

The product of a cow they reckon at 5*l.* a good one will give five gallons of milk *per* day:—They keep but few twine, and not the more for their cows. The winter food of the latter hay and ſtraw, of the firſt two tons; keep them in the houſe: Their calves

ſuck five weeks for fatting, and ſix for rearing, and afterwards are fed with bean meal and milk. They reckon ſix or eight cows the proper number for a dairy-maid to manage.

Their ſwine they fat to 24 ſtone.

Their flocks of ſheep riſe from 40 to 80. The profit they reckon at 15*s* a head. They feed them in winter and ſpring on graſs—ſome turneps—and when pinched for feed turn them into their wheat and rye. 5 *lb.* the average of fleeces.

They reckon eight horſes neceſſary for the cultivation of 100 acres of arable land, uſe three in a plough, and do an acre a day. When at work in winter they allow their horſes a peck of oats *per* day; and reckon the annual expence at 7*l.* They plough up their ſtubbles for a fallow at *Chriſtmas*. The price *per* acre of ploughing 5*s.* The depth five inches. They know nothing of chopping ſtraw for chaff. The hire of a cart and three horſes a day is 5*s.*

In the hiring and ſtocking of farms, they reckon 300*l.* requiſite for one of 100*l.* a year.

Land ſells at 28 or 30 years purchaſe: There are ſome eſtates ſo low as 2 or 300*l.* a year.

Tythes are generally compounded;

Wheat, 8*s.* 6*d.*	Oats, 4*s.*
Barley, 4*s.* 6*d.*	Beans, 6*s.*

Poor rates 2*d.* in the pound. Their employment ſpinning wool and flax. But few drink tea.

The farmers carry their corn 3 miles.

The general œconomy will be ſeen from the following ſketches.

300 acres in all	40 ſheep
100 arable	1 man
200 graſs	3 boys
£. 300 rent	3 maids
14 horſes	8 labourers
12 cows	3 ploughs
20 beaſts	6 carts
12 young cattle	No waggons.

Another,

Another,	450 acres	30 young cattle
	200 arable in all	90 ſheep
	250 graſs	2 men
£.	420 rent	3 boys
	27 horſes	10 labourers
	30 cows	5 ploughs
	25 beaſts	10 carts.
Another,	180 acres in all	30 ſheep
	80 arable	1 man
	100 graſs	1 boy
£.	140 rent	2 maids
	8 horſes	1 labourer
	7 cows	2 ploughs
	7 beaſts	4 carts.
	20 young cattle	
Another,	100 acres in all	20 ſheep
	60 arable	1 man
	40 graſs	1 maid
£.	90 rent	1 labourer
	6 horſes	1 plough
	4 cows	3 carts.
	8 young cattle	

LABOUR.

In harveſt, 1*s.* 6*d.* and ale.
In hay time, 2*s.* and ditto.
In winter, 1*s.*
Mowing graſs, 2*s.* and 4*s.* 6*d.*
Hoeing turneps, 6*s.* and 4*s.*
Ditching, &c. 1*s.* 2*d.* a rood.
Threſhing wheat, $2\frac{1}{4}d$ a buſhel.
——— Barley, $1\frac{1}{2}d$.
——— Oats, $1\frac{1}{2}d$.
Headman's wages, 12*l.*
Next ditto, 8*l.* or 9*l.*
Boy of 10 or 12 years, 3*l.*
Dairy maids, 4*l.*
Other ditto, 3*l.* 10*s.*

Women *per* day in harveſt, 10*d.* and 1*s.*
In hay time, 6*d.*
In winter, 6*d.*

IMPLEMENTS.

A cart, 6*l.* 6*s.* or 7*l.*
A plough, 1*l.* 1*s.*
A harrow, 15*s.*
A roller 4*l.* or 5*l.* for graſs, but none for barley.
A ſcythe, 3*s.*
A ſpade, 3*s.* 6*d.*
Laying a ſhare and coulter, 1*s.*
Shoeing, 1*s.* 4*s.*

PROVISIONS.

The ſame as at *Newcaſtle.*

About *Morpeth* the ſoil is a loamy clay; letts from 5*s.* to 20*s.* *per* acre; average about 12*s.* Farms riſe from 30*l.* to 500*l.* a year. Their courſes,

	1. Fallow	3. Oats
	2. Wheat	4. Oats.
And,	1. Fallow	3. Beans
	2. Wheat	4. Oats.
Alſo,	1. Turneps	3. Oats
	2. Barley	4. Oats.

For wheat they plough four times, ſow 2½ buſhels between *Michaelmas* and *Martinmas*, and reap, upon an average, 14. For barley they give three ſtirrings, but five on a fallow, ſow 2 buſhels about the end of *March*, or beginning of *April*, and gain in return 20 buſhels. They ſtir but once for oats, ſow 5 buſhels before barley ſowing, and gain 30 in return. One ploughing is alſo the number for beans; of which they ſow 3 buſhels broad caſt—never hoe—the medium crop 28: Uſe them chiefly for horſes. For peaſe they likewiſe plough but once, ſow 2 buſhels, and gain about 14. They give four ſtirrings for rye, ſow 2 buſhels, and gain, upon a medium, 20.

For

For turneps they plough four times, all hoe twice or thrice; and the medium value *per* acre is 3*l.* uſe them for cattle and ſheep. Clover they ſow with both barley and wheat; mow it for hay and get from 1½ to 2 tons *per* acre, and ſow oats after it. Potatoes they prepare for by digging: the planters give 5*l.* *per* acre rent for the land they ſet them on: It is generally a ſtubble, dunged at the rate of 25 loads *per* acre, 32 buſhels each. They dibble them in at 1 foot ſquare; 23 buſhels plant an acre; hand-hoe them three times, at the expence of 2*s.* 6*d.* a time: The crop is from 250 to 400 buſhels. The digging the ground, and digging up the crop, coſts 5*l.* The price commonly 1*s.* a buſhel.

The account, therefore, ſtands thus, *per* acre—

EXPENCES.

	£.		
Rent, — — —	5	0	0
Labour, manuring, cannot be leſs than the day's work of 4 horſes, 3 men, and 2 carts, or	10	0	0
Setts, — — —	1	3	0
Dibbling, — —	0	5	0
Digging and taking up, —	5	0	0
Hand-hoeing thrice, — —	0	7	6
	12	5	6

PRODUCE.

350 buſhels, at 1*s.* — —	17	10	0
Expences, — — —	12	5	6
Profit, — — —	5	4	6

But the profit of ſuch thorough tillage is, perhaps, as conſiderable as this ballance. They ſow barley afterwards, of which they get very great crops.

As to the management of manure, it may partly be judged from their ſtacking their hay both in the field and farm yard—and from their never chopping their ſtubbles.

Paring and burning was once uſed, but it is now done with.

The lime much, lay 70 buſhels *per* acre, beſides a dunging at the ſame time; it coſts 7*s*. beſides the leading; they reckon they could not raiſe corn without it.

Very good graſs land will lett at 20*s*. an acre: They apply it moſtly to fatting. An acre and a half they reckon ſufficient for carrying a beaſt, of 100 ſtone, through the ſummer, or to maintain ſeven or eight ſheep.—Their breed of cattle is the ſhort horned, which they reckon much the beſt.

The product of a cow they lay at 5*l*. but on land of 20*s*. an acre, they ſuppoſe it may amount to 9 or 10*l*. A good one will give 9 gallons of milk *per* day. Ten will maintain 5 or 6 ſwine. Their winter food is hay and ſtraw. The calves do not ſuck at all, being brought up by hand, about 6 weeks, for either killing or rearing. A dairy-maid, they reckon, can take care of 6 cows;—and a ton and a half of hay is the quantity they allow for wintering one cow. The joiſt, through the year, 3*l*. 10*s*. They are kept in winter in the houſe.

Their ſwine they fat up to 20 and 30 ſtone.

The profit on fatting an ox in graſs, of 100 ſtone, they reckon, at a medium, 5*l*.

Their flocks of ſheep riſe from 30 to 100; the profit on them they reckon at 10*s*. a ſheep. In winter they keep them on graſs; and in very bad weather give them hay: in *April* they turn them into their young clover: The average of their fleeces, is 3*lb*.

In

In the tillage of their farms, they reckon that 6 horſes are neceſſary for the culture of 100 acres of arable land. They uſe either 3 horſes in a plough, or 2 horſes and 2 oxen; with the firſt, they plough an acre and half a day, and with the ſecond, not above half an acre; but then the laſt is the ſtrongeſt of all their work.—Their allowance of oats to their teams, is two buſhels *per* horſe, *per* week. The annual expence of keeping a horſe, they reckon 8*l*. They feed their working oxen on ſtraw and hay, in winter, and work on ſtraw alone. The common time for breaking up ſtubbles for a fallow, is *March*, but ſome do it in *November*. The price of ploughing, is 5*s*. 6*d*.—The depth 4 or 5 inches. The hire of a cart, three horſes and driver, 3*s*. 6*d*.

In the hiring and ſtocking farms, they reckon 450*l*. neceſſary for one of 100*l*. a year.

Land ſells at 32 years purchaſe. Eſtates riſe from 100*l*. upwards.

Tythes are both gathered and compounded; when the latter, 2*s*. 6*d*. an acre for turneps, and 7*s*. for wheat, barley, and oats, are common prices.

Poor rates, 6*d*. in the pound. The employment of the poor, begging and ſtrolling: All drink tea.

The farmers carry their corn ſix miles.

The general œconomy will be beſt ſeen, from the following ſketches:

130	acres in all	20	ſheep
80	arable	12	young cattle
50	graſs	3	men
£. 60	rent	1	boy
7	horſes	1	maid
4	oxen	2	ploughs
4	cows	2	carts.
Another, 300	acres in all	20	cows
160	arable	10	fatting beaſts
140	graſs	30	young cattle
£. 160	rent	50	ſheep
12	horſes	2	boys
		2	maids

	2 maids	4 ploughs	
	2 labourers	6 carts.	
Another,	200 acres in all	10 young cattle	
	100 arable	1 man	
	£. 90 rent	1 boy	
	8 horſes	1 maid	
	10 cows	1 labourer	
	5 fattening beaſts	2 ploughs	
	30 ſheep	4 carts	

LABOUR.

In harveſt, 1*s.* and board.
In hay time, 1*s.* 6*d.* and beer.
In winter, 10*d.*
Mowing graſs, 1*s.* 6*d.*
Hoeing turneps, 2*s.* 6*d.*
Ditching, 1*s.* 2*d* a rood.
All thraſhing done for the 21ſt part.
Headman's wages, 11*l.*
Next ditto, 7*l.*
A boy of 12 years, 3*l.*
A dairy maid, 3*l.* 10*s.*
Other ditto, 3*l.*
Women *per* day in harveſt, 9*d.* and beer.
In hay time, 6*d.*

IMPLEMENTS.

No waggons.
A cart, 7*l.*
A plough, 20*s.*
A harrow, 15*s.*
A roller, 1*l.* 5*s.*
A ſcythe, 2*s.* 6*d.*
A ſpade, 3*s.* 6*d.*
Laying a ſhare and coulter, 4*d.*
and find iron, 1*s.* without.
Shoeing, 1*s.* 4*d.*

PROVISIONS.

Bread——rye, or wheat and peaſe, or barley and peaſe.

Cheeſe,

Cheeſe, 2*d.*
Butter, 8*d.* 16 *oz.*
Beef, 3*d.*
Mutton, 3*d.*
Veal, 3*d.*
Pork, 4*d.*
Milk, three pints of ſkim for ½ *d.*
Potatoes, 3*d.* a peck.
Candles, 7*d.*
Soap, 7*d.*
Labourer's houſe rent, 10*s.*
Their firing, 10*s.*

BUILDING.

Oak timber, 2*s.*
Aſh, 1*s.* 4*d.*
A maſon *per* day, 1*s.* and board.
A carpenter, 1*s* and ditto.
Farm houſes of brick and ſtone.

From *Morpeth* to *Alnwick*, land lets at an average at 12*s.* and farms are in general from 40*l.* to 200*l.* a year. Wheat crops 20 buſhels, barley 30, and oats 36. The ſoil about *Alnwick* is in general either a light loam, or a gravel, and letts about 15*s.* an acre. Farms from 100*l.* to 800*l.* a year. The courſes moſt in uſe are are,

1. Turneps
2. Barley
3. Oats

And,

1. Fallow
2. Wheat
3. Beans or peaſe
4. Oats
5. Oats.

which are both bad, but the laſt execrable. They plough for wheat three or four times, ſow 2 buſhels in *October*, and reap, on an average, 20 buſhels. For barley they ſtir twice or thrice, ſow 2 buſhels in *April*, and gain, at a medium, 40 buſhels. They plough but once for oats, ſow 6 buſhels, after barley, and reckon

reckon the middling crop at 40. For beans but once, on pa ed and burnt land ſow 5 buſhels, and get rom 40 to 50. They ſow but few peaſe; the method is, one ploughing, ſow 3 buſhels, and the crop 20. For rye they plough three or four times, ſow 2 buſhels; the crop the ſame as of peaſe. They plough as often for turneps, hoe twice, and reckon the value *per* acre from 2*l.* 10*s.* to 5*l.* 10*s.* They feed them off with beaſts and ſheep. They uſe no clover, but ſow a few tares to make into hay for their horſes. They cultivate potatoes both by diggi g, and ploughing, and dung-ing; if the latter, it is three times: They ſlice and drop them into the furrow, ſo as to ſtand in rows 12 inches aſunder; 35 pecks will plant an acre; the crop is generally worth 10*l.* or 12*l.* at 1*s.* 6*d.* a buſhel.

For raiſi g manure, they have no idea of chopping the ſtubbles, but ſtack their hay at home, conſe-quently make much more than in places where it is ſtacked in the fields. They lime a great deal, lay 8 or 12 bolls on an acre, at 2 buſhels each.

Good graſs letts at 2*l* an acre; they uſe it chiefly for cows; an acre will ſummer one, or three ſheep. Their breed of cattle is the ſhort horned, and will fat up to 60 or 80 ſtone.

Their ſwine fat from 12 to 20 ſtone.

The product of a cow they reckon at 7*l.* in good graſs; do not keep above a ſow to ten. The winter food, hay, 1½ acre in quantity, and ſtraw; kept in houſe. Calves do not ſuck above three days.

In the tillage of their lands, they reckon four horſes will do for 100 acres of arable land; uſe 2 in a plough, and do an acre and half a day; allow them half a peck of oats a day, and reckon the annual expence of keeping, *&c.* at 8*l. per* head. The time of break-ing up their ſtubbles for a fallow, is after barley ſow-ing. The price of ploughing, 3*s. per* acre, and the depth 4 inches.—The hire of a cart, 3 horſes and driver, 5*s.* a day.

They

They reckon 300*l.* neceſſary for the hiring and ſtocking a farm of 100*l.* a year.

Land ſells at 30 years purchaſe.

Tythes are both gathered and compounded.

Poor rates 6*d.* in the pound; their employment ſpinning.

LABOUR.

In harveſt, 1*s.* 3*d.* and 1*s.* 6*d.* a day.
In hay-time, ditto.
In winter, 10*d.*
Mowing graſs, 1*s.* 6*d.*
Hoeing turneps, 5*s.* twice.
For threſhing, they have the 19th of all grain.
Head man's wages, 9*l.*
Next ditto, 6*l.*
Boy of 12 years, 3*l.*
Maids, 3*l.* to 5*l.*
Women *per* day, in harveſt, 1*s.* 2*d.*
In hay-time, 6*d.*

IMPLEMENTS.

No waggons.

A cart,			£ 7	10	0
A plough,			1	1	0
A harrow,			1	1	0
A roller,			5	0	0
A ſcythe,			0	3	0
A ſpade,			0	3	0
Laying a ſhare,			0	0	6
——— coulter			0	0	6

PROVISIONS.

Bread———Barley and peaſe
Cheeſe, *per lb.* —— —— 2½*d.*
Butter, 16 *oz.* — — 6

Beef,

Beef,	2½
Mutton,	2½
Veal,	2
Pork,	3
New milk, *per* pint,	½
Candles,	7
Soap,	7
Labourer's houſe-rent,	20*s.*
—— firing,	20*s.*
—— tools,	9*s*

Down by the ſea are many rich, grazing farms for oxen and ſheep, up to ſo high as 1000*l.* a year.

The caſtle of *Alnwick*, the ſeat of his Grace the Duke of *Northumberland*, is moſt of it new built by the preſent Duke, and not yet finiſhed: The apartments are all fitted up in the *Gothic* taſte, and ornamented in a very light and elegant ſtile. The principal ones are, 1. A breakfaſt-room, 33 by 21. 2. Dining-room, 55 by 22; it has two bow-windows, but irregular, the *Gothic* work very elegant: Over the chimney, the Ducheſs, by *Reynolds*. 3. A drawing-room. 4. A library, 65 by 22, and at the end, a chapel. 5. A ſaloon, 40 by 20, and a bow. The architecture of the new buildings is quite in the caſtle ſtile, and very light and pleaſing.

From *Alnwick* to *Belford* land letts at 12*s.* an acre; and farms riſe from 40*l.* to 700*l.* a year, but generally between 100*l.* to 200*l.* The wheat crops, at an average, 20 buſhels *per* acre, barley 36, and oats the ſame.

About *Belford* there are many variations from the preceding management, which highly deſerve attention. The ſoil is in general a loam, inclinable to a clay; good wheat land letts, in large farms, at 11*s.* an acre, but in ſmall ones, near the town, at 20*s.* Farms riſe from 100*l* a year to 500*l.* many of 300*l.* 350*l.* and 400*l.* The courſes,

1. Fallow 2. Wheat 3. Peaſe.

Alſo,

Alſo, 1. Turneps 3. Oats
2. Barley 4. Barley.

For wheat they plough four or five times, ſow 3 buſhels in *November*, and gain upon an average about 21 For barley they plough three times, but only twice after turneps, ſow four buſhels, about the 20th of *May*, and reckon the medium produce at 5 quarters. They ſtir but once for oats, ſow 6 buſhels, before barley ſeed time, and gain in return 48. For beans they plough twice, ſow 6 buſhels, broad caſt, the beginning of *March*, never hoe, but get 60 buſhels in return; ſell them for exportation. They give but one ſtirring for peaſe, ſow 4 buſhels the beginning of *March*, and gain from none at all to 50 buſhels.

For turneps they plough four times, hoe twice, ſetting them out ten inches or a foot aſunder, and value them, at a medium, at 45*s.* uſe them for fatting ſheep and beaſts, and rearing calves and young ſheep. Tares they ſow after wheat, on two ploughings, generally for hay, of which they get about 2 tons *per* acre.

Potatoes they plough for thrice: Slice them for ſetts, drop them in the furrows, ſo as to lay 14 inches ſquare; hand-hoe them twice with a hoe 7 inches wide; 6 buſhels plant an acre: Some years they do not get above 24 buſhels, but in others 60. They ſow barley after them.

In the management of the manure in the farm-yard they have merit, for they ſtack all their hay at home; and keep their cattle in houſes, littered down clean. But they know nothing of chopping the ſtubbles for littering a farm yard. Nor do they fold their ſheep, although their flocks riſe to 1000.—Paring and burning is known, but is going out.

Good graſs land will let at 20*s.* an acre. They apply it to all uſes: An acre will keep a cow through the ſummer, or five ſheep; but they never manure it.

Their

Their breed of cattle is the ſhort horned, but apprehend the long to be beſt, and are accordingly getting into them. They fat their oxen up to 150 ſtone weight, and reckon 4*l.* 4*s.* the profit on one of 80 ſtone. Their ſwine to 25.

Four pounds they reckon the produce of a cow, and a good one to give ſix gallons of milk a day: A dairy of eight, will enable the farmer to keep nine or ten ſwine. They give them hay in winter while milked, and ſtraw when dry; keep them in the houſe, and allow each a ton and half of hay. The calves do not ſuck at all, but are brought up by hand; four months for rearing, and two for killing. One maid will, with help, take care of ten cows.

Their flocks of ſheep riſe from 100 to 600; and the profit they reckon on buying to fat as follows:

Lamb, ——	0	8*s.*	0
Wool, ——	0	2	0
Improvement of ewe,	0	4	0
	0	14	0

On ſtock ſheep they calculate it,

Lamb, ——	0	6*s.*	0
Wool, — —	0	1	8
	0	7	8

In very hard weather they give them ſome hay, but their general winter keeping is on the ſheep walks. The fleeces are from 3*lb.* to 5*lb.* the firſt at 5*d.* ½, and the ſecond at 9*d.* ½.

In the tillage of their lands, they reckon 8 oxen and 6 horſes neceſſary for 100 acres of arable land; they uſe either 2 oxen and 2 horſes in a plough, or two horſes alone; with the firſt they do half an acre a day, and with the laſt an acre and half; but then the firſt is uſed in the ſtrong work, and goes much the deeper. They allow their horſes the third of a buſhel

buſhel of oats each in winter *per* week, but none in ſummer; and reckon the annual expence *per* horſe to be 5*l.* 7*s.* They give them no hay, only pea ſtraw. Their draught oxen they feed in winter on ſtraw and coarſe hay, but work them on the firſt alone. They reckon oxen much the beſt on ſtrong lands, ploughing much ſteadier and deeper. They break up their ſtubbles for a fallow in autumn. The price of ploughing is 6*s.* *per* acre, and the depth 5 to 7 inches. They know nothing of chopping ſtraw for chaff.

The hire of a cart, 3 horſes, and a driver, *per* day, is 5*s.*

They reckon, that a man ſhould have 1200*l.* for the ſtocking a farm of 300*l.* a year.

Lands ſells in general at 30 years purchaſe.

Tythes are both gathered and compounded: If the latter,

Wheat pays	—	6*s.*
Barley,	—	5
Oats, —	—	3 6*d.*
Beans,	—	3
Peaſe, —	—	3

Poor rates, 7½*d.* in the pound. Their employment, beſides idleneſs, is a little ſpinning. Very few drink tea.

There are ſome few eſtates ſo low as 100*l.* a year, and to 300*l.*

The farmers carry their corn 4 miles.

The general œconomy will be ſeen from the following particulars of farms:

400 acres in all	300 ſheep
350 arable	2 men
50 graſs	4 boys
£ 320 rent	2 maids
12 horſes	6 labourers
16 oxen	4 ploughs
8 cows	6 carts.
20 young cattle	

Another, 700 acres in all
400 arable
300 graſs
£ 300 rent
16 horſes
20 oxen
10 cows
12 fatting beaſts
30 young cattle
500 ſheep
3 men
2 boys
3 maids
10 labourers
6 ploughs
6 carts.

Another, 200 acres, all arable
£ 100 rent
6 horſes
2 oxen
16 cows
16 young cattle
60 ſheep
1 man
1 boy
3 maids
2 labourers
2 ploughs
2 carts.

Another, 1100 acres in all
700 arable
400 graſs
£. 700 rent
22 horſes
30 oxen
35 cows
60 young cattle
20 fatting beaſts
600 ſheep
3 men
4 boys
5 maids
16 labourers
10 ploughs
10 carts.

Another, 360 acres in all
200 arable
160 graſs
£. 250 rent
8 horſes
4 oxen
10 cows
3 fatting beaſts
16 young cattle
50 ſheep
1 man
2 boys
2 maids
3 labourers
3 ploughs
3 carts.

LABOUR.

In harveſt, 1*s.*
In hay time, 1*s.*
In winter, 10*d.*
Mowing graſs, 2*s.* 6*d.*
Hoeing turneps, from 2*s.* 6*d.* to 4*s.*

Threſhing,

Threſhing, the 20th of all grain.
Head man's wages, 9*l.*
Next ditto, 7*l.* 7*s.*
Boy of 15 years, 5*l.*
Maids, 3*l.* 3*s.*
Women *per* day in harveſt, 1*s.*
In hay time 6*d.* uſed to be but 4*d.*
In winter, 4*d.*

IMPLEMENTS.

No waggons.
A cart, 7*l.* 10*s.*
A wain, 7*l.* 10*s.*
A plough, 1*l.* 15*s.*
A harrow, 1*l.* 5*s.*
A roller, 4*l* of wood
A ſcythe, 5*s.*
A ſpade, 2*s.* 8*d.*
The black-ſmith ſhoes all the horſes, repairs the plough irons, and all the cart ditto, for 1*l.* 1*s.* *per* horſe, *per annum.*
Shoeing, 2*s.*

PROVISIONS.

Bread—barley and peaſe.
Cheeſe, *per lb.* — 3*d.*
Butter, 18 *oz.* — 6
Beef, — — 3*d.*½
Mutton, — 2½
Veal, — — 2
Milk, new, a pint — ½
——, ſkim, 3 pints, — ½
Potatoes, — 2*s.* a buſhel.
Candles, — 5*d.*½
Soap, — — 6*d.*
Labourer's houſe rent, — 20*s.*
——— firing, — 24*s.*
Their tools the farmer finds.

BUILDING.

Bricks, *per* 1000, — 10*s.*
Tiles, — — 40

Oak timber,	—	2 *per* foot.
Aſh, —	—	1
Elm, —	—	1
A maſon *per* day,	—	1 6*d.*
A carpenter,	——	1 6
A thatcher,	——	1 4

Stone walling, dry, that is, without mortar, 4*d.* a ſquare yard cutting and laying, and 10*d.* leading.
In mortar, $5\frac{1}{2}$ feet high, and a yard ſquare, cutting and laying 7*d.* lime, ſand, and leading 2*s.*
Farm houſes of ſtone, and ſlate or pantile.
In the pariſh of *Belford* are

10,600 acres in all
3,300 of ditto moors
400 wood
200 bogs
20 farms, and 600 acres in little parcels
180 labourers
20 men ſervants
200 horſes (by 20 farmers)
150 oxen
4000 ſheep
40 fatting beaſts
6*d.* in the pound rates
£. 3,300 rent.

The town of *Belford*, which is a pretty, well ſituated place, belongs entirely to *Abraham Dickſon*, Eſq; That Gentleman's father procured a market and two fairs to be eſtabliſhed at it; but the ſpirited conduct of the preſent owner is what has brought it to the condition, ſo flouriſhing to what it formerly was; thirteen years ago it did not contain above 100 ſouls, but they now amount to above ſix times that number: And this increaſe has been owing to the excellent means of introducing an induſtry unknown to former times. Mr. *Dickſon* has eſtabliſhed a woollen manufacture, which already employs 16 looms, and the ſpinning buſineſs goes on ſufficiently to keep them at work; a noble acquiſition in a place where a ſpinning-

ning-wheel was not to be ſeen a few years ago. Another eſtabliſhment of very great importance, was that of a tannery. The neareſt tanners were thoſe at *Berwick* and *Alnwick*: This was an inconvenience and a diſadvantage to the neighbourhood; therefore Mr *Dickſon*, at the expence of 700*l*. fixed a tannery, which now turns out to good account, and is a peculiar benefit to the neighbourhood.

The ſituation of *Belford*, half way between *Alnwick* and *Berwick*, at the diſtance of 30 miles, was very advantageous for fixing a good inn, with poſt-chaiſes and accommodations for travellers. This, likewiſe, was executed, and is now found of peculiar uſe to all travellers, and of benefit to the town.

But as a town without good roads to and from it is of courſe but in a paltry condition, Mr. *Dickſon* applied himſelf with great ſpirit to rendering the road to *Belford*, north and ſouth, as good as poſſible; this he effected as far as his influence extended, and would not have left a mile of bad road in the whole country, had others been as ſolicitous as himſelf about ſo important an object.

Coals had formerly been raiſed around *Belford*, but the pits exhauſted, and the undertaking diſcontinued for many years. The common report which this active Gentleman heard on all ſides was, that no more coal was advantageouſly to be had; but common report was not ſufficient for him; he tried in ſeveral places, and was fortunate enough to find a very beneficial ſeam, which has been ſince worked to noble advantage, both to the town and the proprietor.

Diſcovering of coal, led to the burning of lime for the purpoſes of agriculture, as a manure, in a much longer way than had been uſual; and for this work three new lime-kilns were erected, in a moſt ſubſtantial manner, and at a large expence.

This ſpirited Gentleman meditates yet greater works: He propoſes to eſtabliſh ſuch manufactures, as may employ all the poor of the country. He de-

ſigns to build a coal road from his pits to the town, and he conceives ſome hopes of making *Belford* a port, though at two or three miles diſtance from the ſea; this will be of glorious advantage to the town, and open markets for his coals at preſent unthought of. In a word, this active genius is daring and comprehenſive in his ideas, penetrating and ſpirited in the execution.

At the ſame time that he has effected theſe noble works, he has not been idle in other reſpects He has built a very handſome manſion houſe for his own reſidence, raiſed numerous plantations, and erected ſeven new farm-houſes, with all the neceſſary offices, the whole ſubſtantially of brick and tile.

In the walk of huſbandry he has tried ſome experiments, which deſerve attention: Much of his land is ſo wet as to require draining; his method of doing which is as follows: While the field is in tillage, he marks out the low places, where the water lodges, with ſticks, and then, with a plough, throws the land *from* the low ſpace; by beginning at a certain diſtance, 5 or 6 yards for inſtance from the bottom of it, and continually turning the furrows from it, until the plough finiſhes in the middle, and conſequently leaves an open furrow there, by which means a drain is made for the water, which carries it off with a little opening by ſpades:—And afterwards laying the field down to graſs, the land has a fall that keeps it dry.—This method he follows, let the inequality of the ſurface be what it may; for if in any place the land lies in a round, an oblong, or a ſerpentine form, the plough moves according to the wave of the land, and always leaves a furrow in the loweſt part.

This method of draining muſt certainly be moſt effectual in land ſo retentive of water as to hold it on the ſide even of an open drain; and when, conſequently, the ſurface muſt have a fall to carry it off.

In the laying down to graſs, Mr. *Dickſon* is likewiſe very attentive to have it done in a neat and maſterly

terly manner. Of hay ſeeds he ſows 6 buſhels *per* acre, and 8lb. of *Dutch* clover, and alſo about a tenth of the whole of parſley, for the ſake of his ſheep. In 1759, four acres were ploughed and ſown, half with buck wheat and half with peaſe, both were ploughed in when in bloſſom, and winter fallowed after, and in the ſpring ſown with graſſes alone; five acres adjoining were ſown alſo among barley, and another five, without either corn or manure: The reſult of this experiment, which was very well imagined, was this, that, from the firſt year to the preſent time, no kind of difference has been perceived. That, however, which was ſown alone, would, without attention, have proved the worſt; for the chick-weed came ſo ſtrongly, that it threatened to deſtroy all the graſſes; but a dairy of cows being turned in, they eat it up, by which means the graſſes roſe freely. As that part ſown alone, in this experiment, was no better than the other, it is certainly ſo far concluſive againſt ſowing alone, as a crop of corn is thereby loſt, without gaining any thing in return.

Cabbages this Gentleman has alſo tried, and with great ſucceſs. In 1766 he had an acre and half on a cold, wet, clay ſoil: It was well dunged, and ploughed twice: Turneps the preceding crop. The cabbage ſeed was ſown the beginning of *Auguſt* the year before, and the plants ſet out of the bed directly into the field, which operation was performed from the middle of *March* to the beginning of *April*. The rows were three feet aſunder, and two feet from plant to plant, horſe-hoed and hand-hoed as the weeds aroſe. This crop turned out but ſmall in ſize, but was of excellent uſe for feeding the cows; they were given with ſome hay to the milch ones, the leaves ſtripped off. The butter and milk both exceedingly good, and finely flavoured.

In 1767, the ſame field was again planted with them; the management, in all reſpects, as before;

the crop little better; but applied to the ſame uſe, and with equal ſucceſs.

In 1768, four acres were planted, after oats; the ſoil, a rich loamy clay: The ſtubble was ploughed in, and then the field dunged, after which it was ploughed twice more, and planted, as in the other experiments. Part of the ſeed was ſown before winter, and part in the ſpring: The cabbages from the former proved much the largeſt. Many weighed 30, 31, 32, and 33½ *lb.* the average about 15*lb.* a cabbage.

Mr. *Dickſon*, upon the whole, commends greatly the culture of this moſt uſeful vegetable, for the feeding of milch cows: He is determined to continue the cultivation of them for that purpoſe, having found them ſo peculiarly convenient, that a loſs of cabbages would, in a great meaſure, be a loſs of the winter's milk.

This Gentleman is alſo particularly attentive to the management of his fences: His favourite hedge is the holly; he ſows the ſeed in beds, and tranſplants them into rows for hedges; I meaſured ſome, that grew upon a moiſt ſoil, ſix feet high, in ſix years growth: It is indubitably the firſt of all fences, grows very thick, cloſe to the ground, and is of ſo ſtubborn, prickly a nature, as to be impenetrable by man or beaſt.

White thorns he tranſplants at ſix feet high, and finds them to anſwer very well.

Upon the whole, Mr *Dickſon* has proved, by the noble and ſpirited manner in which he has not only increaſed the number of people on his eſtate, but advanced their intereſts; and by the ſenſible attention he has given to agriculture, that the nation at large, as well as this neighbourhood in particular, are greatly indebted to him for his judicious conduct in all matters of rural œconomics.

Mr. *Clarke*, of *Belford*, (one of Mr. *Dickſon*'s tenants,) is very famous in the North for his knowledge

of

of mechanics. Among other inſtances of his ſkill in this branch, his invention of a draining plough, which obtained a premium of 50*l.* from the Society, is one, which has made his name publick in other parts of the kingdom, beſides his own neighbourhood.

But the grand machine upon which he moſt builds his reputation, is that of one for the threſhing of corn: How far it will anſwer has not been tried, becauſe the machine will not be produced until a ſubſcription is filled *.

Mr.

* The following are his propoſals to the public: They certainly merit attention

PROPOSALS *for making by ſubſcription, complete Machines for Threſhing* CORN.

To the PUBLIC.

OF all the operations of the laudable profeſſion of the huſbandman, it is preſumed none are performed leſs to his ſatisfaction and emolument, none more detrimental to the public, and more oppreſſive to the poor labourer, than that of threſhing corn. The difficulty of finding people diſpoſed to undertake this drudgery, the large expence, and unavoidable waſte that attends the preſent method of threſhing corn; and the diſappointments that are met with by not having grain ready in due time for ſeed, and other occaſions, are loſſes and embarraſſments that the moſt circumſpect farmers hitherto have not been able to prevent; and as corn is not marketable until it is threſhed, the public have undoubtedly felt ſome of the effects of ſcarcity on that account. The threſhers themſelves, although near a twentieth of all they threſh is allowed them for their labour, are in general ſo overwhelmed with poverty and diſtreſs of body, that they are of all the honeſt labourers in the country the moſt miſerable: Theſe facts, taken together, inconteſtibly prove, beyond the force of cuſtom, ignorance, and malice, that the preſent method of doing this neceſſary work, is not only prejudicial to individuals, but alſo a very great public grievance. And that therefore any contrivance, which would render the labour tolerable, and put it in the power of all occupiers of corn farms to have their corn ſeparated from the ſtraw, in ſuch quantities, and at ſuch times as they think proper, at a moderate expence, cannot but meet with a candid reception.

Cuthbert Clarke, of *Belford*, in the county of *Northumberland*, thinking the above conſiderations well worthy his attention, has employed his utmoſt efforts to accommodate the public with machines for the above purpoſe; and flatters himſelf, that the machine he has contrived will, upon trial, meet with approbation, as

it

Mr. *Clarke*'s method of cultivating turneps, is peculiar: He ſows them broad caſt, and cuts them with a horſe

it will make great diſpatch, be very ſimple, commodious, and durable *. And in order to make it come as cheap as poſſible to the ſubſcribers, he intends to furniſh them on the following terms, and free of the common additional expence of a patent.

CONDITIONS.

1. This machine ſhall, in ten hours, worked by one horſe (with a boy to drive, and a man to feed the machine, clear off the ſtraw, &c.) fairly threſh as much corn as what is uſually eſtimated the work of eight men for that time, in the common way of two threſhing together.

2. In order that this machine may be both laſting and generally uſeful, the inventor engages as follows: 1ſt, That all its parts ſhall conſiſt of good materials, which ſhall be duly proportioned to their various uſes. 2dly, That the whole proceſs of ſeparating the grain from the ſtraw, ſhall be rendered ſo plain and eaſy, that a common labourer may be truſted with the full management of it. 3dly, That the conſtruction ſhall be ſuch as may be contained, and conveniently worked within a common barn, with the addition only of a ſmall hovel againſt one ſide of it.

3. A trial of one of theſe machines is intended to be at *Belford* aforeſaid, before all, or as many of the ſubſcribers as can attend, within one month after fifty ſubſcriptions are completed, of which particular notice will be given.

4. If at this trial it is fully proved, that the machine anſwers the conditions before mentioned, and ſecurity is given, that each ſubſcriber ſhall in his turn (according to the method the ſubſcribers appoint for diſtributing them) have a machine delivered to him, or order, at *Belford*, every way as good as the trial machine; each of the ſubſcribers ſhall then pay the ſum of 5*l.* in part of 42*l.* the full conſideration-money for one complete machine. The remainder of the ſaid ſum of 42*l.* to be paid at the delivery of each machine, by the perſon that receives it.

N. B. The inventor having been informed, ſince propoſals for making the above-mentioned Machines have been delivered, that many people, whoſe concerns in the farming-way are ſmall, are very deſirous of having machines, for the above purpoſes, of ſmaller dimenſions and price: He, therefore, to ſuit them, and others, who rather incline to have ſmall machines, has, upon the ſame principles, conſtructed a machine with which two men, with-

* It is impoſſible preciſely to compute the time ſuch a machine may laſt, but in all probability it will threſh annually all the corn produced upon a two hundred pounds corn farm, and laſt thirty years for about ten ſhillings a year repairs. It may be conveyed any diſtance by two good carts, and may be placed or ſet up in two days time, by any country Wright who can follow directions.

out

a horſe hoe, without a mold board, into rows, 14 inches aſunder, then with hand-hoes he ſets them out into ſquares of 14 inches, and after that, with a double mold board plough, earths them up, and finds the crop much better than in the common method, and the land left in finer order.

An experiment he tried of the effect of electricity on vegetation, deſerves attention; he planted two turneps in two boxes, each containing 24*lb.* of earth: He kept them in the ſame expoſure, and all circumſtances the ſame to each, ſave that one was electrified twice a day, for two months, at the end of which time it was in full growth, the ſkin burſting, and weighed 9*lb.* The other, at the end of *four* months, did not quite reach that weight: A ſtrong proof that the electric fire had a remarkable power in promoting and quickening the vegetation.

At *Waren*, near *Belford*, have been ſome improvements of moor land, which deſerve mention. The ſoil is a black, rotten, boggy, peat earth, lets at 1*s.* 6*d.* an acre. They plough it up in *October*, and let it lie all the ſucceeding ſummer without touching, and likewiſe the winter, when they lime it: Of this manure they reckon too much cannot be laid on; ge-

out any other aſſiſtance, with eaſe, may in ten hours fairly threſh as much corn as is uſually eſtimated the work of four men for that time, in the common way of two threſhing together: And intends to make theſe ſmaller machines by ſubſcription, exactly on the ſame conditions with the large machines, except that the price of them is only to be 22*l.* each, and the part of that ſum, which is to be advanced at the trial of the machine (which will be at the ſame time the large machine is tried) is only to be 3*l.* The ſmall machines, without diſengaging any of their parts, may be tranſported from one place to another; and will probably laſt as long as the large machines, and may be kept in repair at a proportionable expence.

All Gentlemen, &c. who intend to encourage this deſign, by ſubſcribing, and have not an opportunity of meeting with the inventor, are deſired to acknowledge it by letter (ſignifying at the ſame time which of the machines they chuſe) directed to him at *Belford*, within four months from the date hereof.

nerally

nerally 10 or 12 fother, at 24 buſhels each, which coſts 3*s*. 6*d*. a fother, beſides leading, which is 6*d*. Some few from 20 to 30. After this liming they croſs plough it, and harrow it three or four times; then ſow turneps, which, if well ſown, want, according to their notions, no hoeing. They are worth, upon a medium, about 50*s*. *per* acre. After theſe turneps they plough once and ſow oats, 4 buſhels to the acre, and gain a crop of about 28 or 30. This crop is ſucceeded by a ſecond of oats, managed as before, and the produce much the ſame: After this comes a third, as before; but it ſeldom yields above 20 buſhels *per* acre. After this, they fallow and lime it, and ſow turnips, which are not worth above 25*s*. an acre. Next come oats, of which they do not get above 16 buſhels; they ſow ſome ray-graſs, and a few other ſeeds, which may make the field worth 5 or 6*s*. an acre, for 5 or 6 years: They uſe it for cows and ſheep. A worſe ſyſtem cannot well be conceived.

At *Hetton*, a few miles weſt of *Belford*, the huſbandry varies much. The ſoils are light loams, and rotten, black, moory land; let from 1*s*. 6*d*. to 15*s*. an acre; average, about 6*s*. 6*d*. Farms riſe from 100 to 700*l*. a year, but are, in general, from 2 to 300*l*. Their courſes are,

1. Turneps 2. Barley 3. Clover 4. Oats.
And, 1. Fallow 2. Wheat 3. Peaſe 4. Wheat.

They plough 6 times for wheat, ſow 2 buſhels in *October*, and do not reap, in return, above 10, upon an average. For barley, they plough once or twice, ſow 3 buſhels in *April*, and gain, in return, about 24. For oats, but one ploughing, ſow 6 buſhels before barley, and reckon the medium crop at 30. For beans, (of which they ſow but few,) they plough but once, ſow 3 $\frac{1}{2}$ buſhels, broad caſt, never hoe them, and gain about 18; uſe them for horſes. For peaſe, alſo, one ploughing, ſow 4 buſhels, and gain 15. They give four earths for turneps, hoe them twice; the medium

medium value *per* acre, 55*s.* they uſe them for ſheep only.

Clover they ſow with barley; both mow and feed it: If the former, they get about a ton and half *per* acre.

As to the management of their manure, they ſtack their hay in general in the farm yard, except what is uſed for ſheep; but know nothing of chopping ſtubbles for littering the farm yards. They lime a great deal; lay ſix cart loads on an acre, or 120 buſhels, which coſts 3*s.* 9*d.* *per* load, beſides the leading. In the burning of lime, one load of coal burns two of lime.—They never fold their ſheep.

Good graſs land lets at 20*s.* an acre. They uſe it chiefly for fatting beaſts, 1½ acre will fat one of 70 or 80 ſtone; and an acre feed four ſheep. They very ſeldom manure it.

Their breed of cattle is the ſhort-horned, both for fatting and milking. The product of a cow they reckon at 4*l.* 4*s.* a good one will give five gallons of milk *per* day: They feed them in winter upon both hay and ſtraw; of the firſt of which a cow eats from 1½ to 2 tons, and always feed in a houſe. Of ſwine they generally keep one to two cows. Their calves do not ſuck at all, but are brought up by hand; three months for rearing, and ſix weeks for the butcher. A dairy maid will take care of 12 cows. The ſummer joiſt is 35*s.* and the winter's the ſame.

The profit of fatting an ox of 70 ſtone they reckon 50*s.*

Swine they fat from 10 to 24 ſtone.

Their flocks of ſheep riſe from 300 to 2000, and reckon the profit of all ſorts, one with another, at 5*s.* *per* ſheep *per annum.* They keep them in winter and ſpring upon their ſheep walks and turneps; of the latter they keep ſome to the end of *April.* The average weight of fleeces 7*lb.* and value 7*d.* *per lb.*

They conſtantly ſalve all ſheep in *October*, with tar and butter; two gallons of tar and a firkin of butter,

butter, melted together, will do 120. They reckon this method keeps them free from the ſcab, warm in the bad weather, and alſo makes the wool grow.

In their tillage they reckon 20 horſes and as many oxen neceſſary for the management of 500 acres of arable land; they uſe in a plough two horſes and two oxen, but in ſome lands only two horſes, which do an acre a day in ſummer, but only three roods in winter: They allow their horſes two buſhels of oats a week *per* horſe, and reckon the annual expence *per* horſe at 6*l*. 6*s*. The winter food of their oxen is ſtraw and ſome coarſe hay; and they calculate the whole annual expence at leſs than 50*s*. but horſes are the beſt, though not in proportion to the expence. The time of breaking up the ſtubbles for a fallow is the beginning of *March*; and the price *per* acre of ploughing 5*s*. They cut from five inches deep to ten in light loams. They know nothing of cutting ſtraw into chaff. The hire of a cart and three horſes is 7*s*. a day.

In the hiring and ſtocking farms they reckon for the taking one of 500*l*. a year, that from 1500 to 2000*l*. is neceſſary.

Land ſells at 30 years purchaſe. There are many freeholds from 50 to 300*l*. a year.

Much land in this neighbourhood tythe free.

Poor rates in general low, from nothing up to 2*s*. in the pound. The poor women and children in total idleneſs. They do not drink tea, but ſmoke tobacco unconſcionably. The farmers carry their corn ſeven miles.

The general œconomy of the country may be ſeen from the following particulars of farms:

2500 acres in all	24 oxen
1250 arable	4 cows
1250 graſs	40 fat beaſts
£. 650 rent	40 young cattle
22 horſes	2000 ſheep
30 mares and foals	1 man
	2 maids

2 maids
35 labourers
Another, 2500 acres in all
1000 arable
1500 graſs
£. 700 rent
15 horſes
16 oxen
7 mares and foals
12 cows
10 ploughs
7 carts.
45 young cattle
2000 ſheep
2 men
2 maids
20 labourers
5 ploughs
6 carts.

Another, 1100 acres in all
800 arable
300 graſs
£. 300 rent
20 horſes
8 oxen
5 mares and foals
6 cows
50 young cattle
1000 ſheep
4 men
2 boys
2 maids
16 labourers
6 ploughs
6 carts.

Another, 1000 acres in all
500 arable
500 graſs
£. 320 rent
14 horſes
12 oxen
8 mares and foals
5 cows
20 young cattle
1000 ſheep
2 men
2 maids
8 labourers
4 ploughs
4 carts.

Another, 700 acres in all
500 arable
200 graſs
£. 160 rent
12 horſes
12 oxen
6 mares and foals
6 cows
20 young cattle
500 ſheep
3 men
1 boy
2 maids
10 labourers
3 ploughs
3 carts.

Another, 700 acres in all
100 arable
600 graſs
£. 200 rent
9 horſes
8 oxen
3 mares and foals
6 cows
12 young cattle
700 ſheep

1 man

	1 man	2	ploughs
	2 maids	2	carts.
	6 labourers		
Another,	240 acres in all	6	fatting beaſts
	30 arable	400	ſheep
	210 graſs	1	man
£.	75 rent	2	maids
	3 horſes	3	labourers
	5 mares and colts	1	plough
	4 cows	1	cart.

Their moor huſbandry is as follows: They plough it up in *October*, four inches deep, and let it ſo remain till the *October* following, then they plough it again, and ſummer fallow the land, and lime it, the quantity before mentioned, and ſow turneps; the crop of which are worth, upon an average, about 50*s.* to 3*l.* an acre upon dry land: After theſe they ſow oats, and get about 40 buſhels *per* acre, and with them ſow down with ray graſs, three buſhels *per* acre; after which the land would lett for 4*s.* 6*d.* *per* acre, and will laſt ſeven years. After this they break it up again, and take two crops of oats and turneps, but not near ſo good as at firſt; then they lay it down again. This proceſs is upon dry ſoils; if they are wet, they do not think them worth meddling with.

Mr. *John Wilkie*, of *Hetton*, one of the moſt conſiderable farmers in this county, has tried carrots with ſucceſs; he ſows them the end of *March*, on a light loam, hoes them twice, to the diſtance of five inches aſunder: They grow to the ſize of a man's wriſt, and 12 inches long; all cattle are very fond of them, particularly hogs. Mr. *Wilkie* has found them extremely profitable.

LABOUR.

In harveſt, 1*s.* 6*d.*
In hay-time, 1*s.* and ale.
In winter, 9*d.*
Mowing graſs, 2*s.*

Hoeing

Hoeing turnips, 4*s.* 6*d.*
New ditching, 1*s.* 2*d.* a rood.
Threſhing, the 25th.
Headman's wages, 10*l.*
Next ditto, 7*l.*
Lad of 10 or 12 years, 5*l.*
Maids, 50*s.*
Women *per* day in harveſt, 1*s.*
In hay-time, 6*d.*
In winter, 4*d.*

IMPLEMENTS, *&c.*

No waggons.
A cart, 7*l.* 7*s.*
A plough, 1*l.* 8*s.*
A harrow, 1*l.* 1*s.*
A roller, 3*l.*
A ſcythe, 3*s.*
A ſpade, 3*s.* 6*d.*

The laying the ſhares and coulters, and keeping the ploughs, *&c.* in order, alſo the carts, and ſhoeing the horſes, the blackſmiths do for 20*s.* a horſe, and the iron: If iron not found, 40*s.*

PROVISIONS.

Bread——barley and peaſe.
Cheeſe, 2*d*
Butter, 5*d.* 16 *oz.*
Beef, 3*d.*
Mutton, $2\frac{1}{2}$*d.*
Veal, 2*d.*
Pork, 3*d.*
Milk, $\frac{1}{2}$*d.* a quart.
Potatoes, 1*s.* 2*d.* a buſhel.
Candles, 6*d.*
Soap, 6*d.*
Labourers houſe rent, 10*s.*
——— firing, 15*s.*
——— tools all found.

BUILDING.

Bricks, 10*s.*
Tiles, 40*s.*
Oak, 1*s.* 6*d.*
Aſh, 1*s.*
Maſon *per* day, 1*s.* 6*d.*
Carpenter, 1*s.* 6*d.*
Thatcher, 1*s.* 6*d.*
Farm houſes of ſtone.

From *Belford* to *Berwick* land letts upon an average at 12*s.* an acre, farms from 100*l.* to 500*l.* a year. Their wheat crops amount to 24 buſhels *per* acre on a medium; barley 36, and oats as much. *Berwick* has nothing more worthy notice than its bridge over the *Tweed.*

PROVISIONS.

Bread, 10 *oz.* wheaten,	—			1 *d.*
Other ditto, 14 *oz.*	—	—		1
Butter, 18 *oz.*	--	—		6
Mutton,	——	——		2½
Beef,	——	——	—	3½
Milk, *per* pint,	—	—		½
Potatoes, *per* buſhel,		—	2*s.*	
Candles,	—	—	—	5½
Soap,	——	—	—	6
Labourer's houſe-rent,		—	20*s.*	
——— firing,	—	—	25*s.*	

Labour as at *Belford.*

From *Berwick* to *Woller* land letts upon an average at 9*s. per* acre; farms from 200*l.* to 1000*l.* a year.

About *Fenton*, near *Woller*, the ſoil in the vales is a ſandy loam of 2 feet depth, but upon the higher lands it is not more than from 3 to 6 inches deep. Letts from 2*s.* 6*d.* to 12*s.* and ſome to 20*s.* an acre.

Farms from 100*l.* to 2000*l.* a year.

Their

Their courſes are,

	1. Turneps	4.	Peaſe
	2. Barley	5.	Wheat.
	3. Oats,		
Alſo,	1. Fallow	3.	Oats
	2. Rye	4.	Oats.
And,	1. Turneps	3.	Peaſe
	2. Barley	4.	Wheat.

This is a very good courſe.

They ſtir for wheat three or four times, ſow three buſhels in *October*, and reap upon an average 3 quarters. For barley they plough once, ſow three buſhels and ½ about the middle of *April*; and reckon he mean produce at three quarters and a half.

For oats they plough but once, ſow ſix buſhels before barley, and gain, in return, from four to ſix quarters. Beans and peaſe they mix, and ſow of them four buſhels on one ploughing, broaſt caſt; never hoe them; the crop about 25 buſhels. For peaſe they give but one ploughing, ſow three buſhels and a half, and get 20 in return. For rye, after turneps, they plough but once, after a fallow three or four times, ſow two buſhels, and get 30. They ſtir for turneps three or four times, hoe once, in common, and ſometimes twice; the average value *per* acre, 50*s*. They uſe them chiefly for feeding ſheep

Clover they ſow with barley, and mow it for hay, of which they get about two tons *per* acre; and ſow oats after.

In the management of their manure in the farm-yard, they have only ſuch as they make from feeding their hay and ſtraw, as they ſtack the former not in the fields, but in the farm-yards They know nothing of chopping ſtubbles. Of lime they lay from three to eight loads, 30 buſhels each; it coſts 4*s*. a load, beſides the leading. They never fold their ſheep.

Good graſs land letts at 20*s*. an acre; they apply it chiefly to breeding. An acre and a half will feed

a cow, and one acre keep four ſheep: They never manure it. The breed of their cattle is the ſhort horned, which they prefer to any other; their oxen are very large, fat to 150 ſtone. They reckon the product of a cow at 3*l.* They give about four gallons of milk *per* day. They keep about two pigs to a cow. The winter food of their cows, ſtraw and hay; of the latter of which they generally eat about two tons each. The winter joiſt is 25*s.* and the ſummer, 30. They do not let their calves ſuck at all, but feed them by hand, from three to five weeks, for the butcher, but half a year for rearing. They keep their cows all winter in the houſe.

Their flocks of ſheep riſe from 500 to 10,000; and the profit of them they calculate at 8*s.* in the vales, and 3*s.* upon the hills. The winter and ſpring food are the commons; but they give ſome hay in very ſtormy weather: The weight of the fleeces from 3 to 7*lb.* in the vales, and from 2 to 4 on the hills, and from 6*d.* to 9*d.* price.

Very large ſtocks of ewes are milked after the lambs are weaned, for from 6 to 10 weeks: They make the milk into butter and cheeſe, the amount of both which may amount to about 2*s.* a head: The butter is all uſed in ſalving them; the cheeſe ſells ſo high as 4*d.* a pound. The hinds wives milk them. This is but a paltry affair.

In their tillage they reckon 20 horſes and 16 oxen neceſſary for the management of 500 acres of arable land; their draught 2 horſes and 2 oxen, which do an acre a day. Their allowance of oats *per* day is half a peck, and they reckon the annual expence of a horſe at 5*l.* The ſummer joiſt of a horſe is 25*s.* The winter food of the draught oxen, ſtraw and hay, but never work on ſtraw alone: They prefer horſes ſo much that oxen are going out of uſe by degrees. The time of breaking up their ſtubbles is at *Candlemas*; from 4 to 7 inches deep; the price of ploughing from 3*s.* 6*d.* to

3*s*. 6*d*. to 5*s*. And that of a cart, three horſes, and driver, 4*s*.

They know nothing of cutting ſtraw into chaff.

They calculate, that a man who hires a farm of 500*l*. a year, ſhould have from 2 to 3000*l*.

Land ſells at 30 years purchaſe: Very few ſmall eſtates.

Tythes in general compounded

It is not the cuſtom for the farmers to raiſe any thing, by way of rate, for the maintenance of their poor, but each keeps his own ſhare: As to the expence, it ſcarcely amounts to a farthing in the pound.

The poor women and children have no employment. They are not tea drinkers, but ſmoke tobacco immoderately.

The farmers carry their corn eight miles

The œconomy of their farms may be ſeen from the following ſketches.

	6000 acres in all	8000 ſheep
	2000 arable	12 men
	4000 graſs	6 boys
£.	1050 rent	6 maids
	100 horſes	80 labourers
	80 oxen	15 ploughs
	30 cows	20 carts.
	200 young cattle	
Another,	5000 acres in all	3000 ſheep
	1500 arable	3 men
	3500 graſs	3 boy
£.	1500 rent	4 maids
	80 horſes	50 labourers
	60 oxen	15 ploughs
	30 cows	20 carts.
	150 young cattle	
Another,	2000 acres in all	2000 ſheep
	500 arable	2 men
	1500 graſs	2 boys
£.	700 rent	2 maids
	20 horſes	25 labourers

 20 oxen

	20 oxen	8	ploughs
	20 cows	10	carts.
	80 young cattle		
Another,	1000 acres in all	800	ſheep
	400 arable	3	men
	600 graſs	3	boys
£.	500 rent	2	maids
	20 horſes	16	labourers
	16 oxen	1	waggon
	8 cows	7	carts
	60 young cattle	8	ploughs.

LABOUR.

In harveſt, 1*s.* 6*d.*
In hay-time, 1*s.* 6*d.*
In winter, 1*s*
Mowing graſs, 1*s* 4*d.* to 1*s.* 6*d.*
Hoeing turneps, 3*s.* to 6*s.*
Threſhing, the 25th part.
Headman's wages, 8*l.*
Next ditto, 6*l.*
Boy of 10 or 12 years, 3*l.*
Maids, 50*s.* to 3*l.*
Women *per* day, in harveſt, 8*d.* to 1*s.*
In hay time, 4*d.*
In winter, 4*d*

But I ſhould here remark, that ſome of theſe prices reſpect only the hands which do not belong to the village; for their own labourers are not paid in money, but in what is called here *boll and ſtent:* That is, the farmer pays as follows. He keeps the man two cows; allows him 66 buſhels of grain of all ſorts; one ſtone of wool, 24 *lb* to the ſtone;) leads his coals; finds him a houſe; half a rood of land for potatoes; keeps him a hog, and ſows half a peck of flax for him: The wife has 5*s.* for her hay and harveſt; and a boy, when of 12 years of age, 30 buſhels of corn.

IMPLE-

IMPLEMENTS.

A waggon, 18*l.*
A cart, 7*l.*
A plough, 1*l.* 8*s.*
A harrow, 18*s.*
A roller, 3*l.*
A ſcythe, 2*s.* 6*d.*
A ſpade, 3*s.* 6*d.*
Laying a ſhare, 4*d.*
——— a coulter, 4*d.*
Shoeing, 1*s.* 4*d.*

PROVISIONS.

Bread——peaſe and barley.
Cheeſe, 2 ½ *d.*
Butter, 5*d.* 16 *oz.*
Beef, 3*d.*
Mutton, 3*d.*
Veal, 2*d.*
Pork, 3*d.*
Milk, ½ three pints.
Potatoes, 3*d.* a peck.
Candles, 6*d.* ½ *per lb.*
Soap, 6 ½ *d.*
Labourer's houſe-rent, 9 to 12*s.*
——— firing, 20*s.*
——— Tools found by the farmer.

BUILDING.

Bricks, 12*s.* 6*d.* and vile.
Tiles, 45*s.*
Oak timber, 2*s.* *per* foot.
Aſh, 1*s.*
Maſon *per* day, 1*s* 6*d.*
Carpenter, ditto.
Farm-houſes of ſtone and tile.
In the townſhip of *Fenton* are

1600 acres	34 horſes
2 farms	30 oxen
1000 acres ſheep-walk	46 cows
30 labourers	1150 ſheep.

From *Woller* I turned aſide to go up *Cheviot Hill*, whoſe towering head invited me to the proſpect, which I could not but ſuppoſe he muſt command. The height of this mountain is prodigiouſly great, and the view from it on all ſides moſt extenſive. I ſaw *Gateſhead Fell*, near *Newcaſtle*, at the diſtance of 55 miles, and ſeveral objects in *Scotland*, beyond *Edinburgh*, as I was told.

Between *Woller* and *Rothbury*, and alſo between *Alnwick* and *Rothbury*, are vaſt tracks of mountainous moors: indeed all the latter fifteen miles are abſolutely uncultivated, except half a mile of incloſed valley about half way: The ling in vaſt tracks, high, thick, and luxuriant, and the ſoil a fine light loam: In ſome places black, but every where deep. I do not conceive that there is an acre of it, but what might be made, at a ſmall expence, worth 8 or 10*s.* for ever. What a field for improvement! What a noble ſource of riches and population! How much is it to be regretted that ſuch extenſive tracks of land ſhould remain in ſuch a deſolate condition, whilſt the products of the earth ſell at a beneficial price; and while we hear ſuch clamours among the people for want of a greater plenty of food.

About *Rothbury* the ſoil is both gravel, clay, ſand, and moory; the incloſures let at 20*s.* an acre; the moors at 1*s.* and afterwards at 2*s.* 6*d.* and more.

Farms riſe from 50*l.* to 150*l.* a year.

The courſes:

	1. Fallow	3. Barley
	2. Wheat	4. Oats.
And,	1 Turneps fed off for	3. Barley
	2 Wheat	4. Oats.
Alſo,	1. Turneps	3. Oats
	2. Barley	4. Oats.

For wheat after turneps they plough but twice; after fallow three or four times; ſow two buſhels an acre in *October* and *November*, and reap from ſixteen to twenty. For barley they ſtir twice, ſow three buſhels

buſhels the end of *April* or the beginning of *May*, and reckon the average produce twenty-four buſhels. They plough but once for oats, ſow ſix buſhels, before barley, and gain in return from forty to ſixty. For peaſe they give but one ploughing, ſow two buſhels, before barley, and get, upon an average, about ten buſhels. They ſtir three or four times for rye, ſow two buſhels, and reap twenty.

For turneps they plough thrice, hoe them twice, and reckon the mean value *per* acre at 3*l.* uſe them for ſheep and beaſts. Potatoes they prepare for by both ploughing and digging; if the former, they ſtir three times, and manure the land well: They lay the ſlices in the furrows, and hand-hoe them as the weeds riſe, once or twice: They get eighty buſhels off an acre, and reckon the crop very profitable: Wheat or barley after them.

Their chief manure is liming; they lay five loads *per* acre, at twenty-four buſhels *per* load, and generally on the fallow for turneps or wheat. Their hay they ſtack at home. Though improvers of moors, yet they know little of the paring and burning huſbandry.

Good graſs will let for a guinea an acre: They uſe it more for fatting beaſts than for feeding cows: One acre of good graſs will carry a cow through the ſummer, or four ſheep. The breed of cattle is the ſhort horns, of which they feed oxen from 60 to 120 ſtone.

They reckon the product of a cow at 4*l.* 10*s.* or 5*l.* and expect two firkins and a half of butter from each upon an average. A good one will give ſix or ſeven gallons of milk *per* day: One kept by Mr. *Whittam*, when he lived near *Rothbury*, gave in common 24 gallons a-day: A fact I much doubted, until the perſon who gave me the intelligence called in two or three perſons to vouch for the truth of it. They keep about two pigs to five or ſix cows. The winter food is hay and ſtraw, of the former about half an acre. The calves never ſuck at all, but are brought up by hand;

hand; for the butcher three weeks, and for rearing three months.

Their flocks of ſheep riſe from 40 without right of commonage, to 4000 with; and they reckon the profit at 7*s.* a head; their common winter food is on the moors, but in deep ſnows they give them hay. Their fleeces run from 3 to 6 *lb.*

In their tillage they calculate four horſes and four oxen neceſſary for the culture of 100 acres of arable land. They uſe two horſes and two oxen in a plough, ſometimes only two horſes, and do from half to three quarters of an acre a day. They allow their horſes three gallons of oats *per* week; and reckon the annual expence *per* horſe at 6*l.* Their draught oxen they feed on ſtraw and hay in the winter. Horſes they expect will do more than oxen, but the latter are much the cheapeſt. They break up their ſtubbles for a fallow in *May*. The price of ploughing is 3*s.* 6*d.* an acre, and the depth five inches. The hire of a cart for carrying coals is 5*s.* a day, for working in the roads 3*s.*

In the hiring and ſtocking of farms, they reckon that 350*l.* are neceſſary to ſtock one of 100*l.* a year.

Tythes are generally compounded for in the total. Poor rates from 1*s.* to 1*s.* 10*d.* in the pound. The employment of the women and children is chiefly ſpinning wool.

The farmers carry their corn 17 miles.

The general œconomy of the country will appear from the following particulars of farms:

	450 acres in all	20	young cattle
	250 arable	1000	ſheep
	200 graſs	1	man
£.	180 rent	3	boys
	9 horſes	4	maids
	8 oxen	2	labourers.
	15 cows		
Another,	200 acres in all	£. 70	rent
	80 arable	4	horſes
	120 graſs	2	oxen
		10	cows

10 cows
8 young cattle
200 ſheep
1 man
1 boy
1 maid
1 labourer.

Another, 130 acres in all
90 graſs
40 arable
£. 35 rent
5 cows
4 horſes
4 young cattle
100 ſheep
1 boy
1 maid
1 labourer.

Another, 100 acres in all
50 graſs
50 arable
£. 30 rent
4 horſes
2 oxen
4 cows
8 young cattle
50 ſheep
1 man
1 boy
1 maid.

LABOUR.

In harveſt, 1*s.* 4*d.* and 1*s.* 6*d.* and a dinner.
In hay time, 1*s.* dinner and beer.
In winter, 1*s.*
Threſhing, the 19th of all grain.
Headman's wages, 12*l.*
Next ditto, 8*l*
Boy of 10 or 12 years, 3*l.*
Maids, 3*l.* and 3*l.* 10*s.*
Women *per* day in harveſt, 10*d.* and 1*s.* and dinner.
In hay time, 6*d.* and dinner.
In winter, 4*d.*

PROVISIONS, *&c.*

Bread—Barley and peaſe
Cheeſe, *per lb.* 2½*d.*
Butter, 5*d.* 16 *oz.*
Beef, 4*d.*
Mutton, 3*d.*
Veal, 2*d.* and 2½*d.*
Pork, 3½*d.*
Milk, a pint, ½

Potatoes,

Potatoes, 1*s.* 12 quarts.
Candles, 7*d.*
Soap, 7*d.*
Labourer's houſe rent, 10*s.* to 20*s.*
——— firing, 20*s.*

IMPLEMENTS.

No waggons.
A cart, 5*l.*
A plough, 17*s.*
A harrow, 10*s.*
A ſcythe, 2*s.* 8*d.*
A ſpade, 3*s.* 6*d.*
Laying a ſhare and coulter, 8*d.*
Shoeing, 1*s.* 4*d.*

BUILDING.

Oak timber, 1*s.* 8*d.* *per* foot
Aſh, 1*s.* 6*d.*
Elm, 1*s.* 6*d.*
A maſon, *per* day, 1*s.* 6*d.*
A carpenter, 1*s* 6*d.*
Farm houſes of ſtone.

From *Rothbury* I took the road to *Wollington*; the ſoil various, much uncultivated, though not ſo deſert a track as the laſt. A few miles before *Cambo*, there is a very fine new-made lake of Sir *Walter Blackett*'s, ſurrounded by young plantations, which is a noble water; the bends and curves of the bank are bold and natural, and when the trees get up, the whole ſpot will be remarkably beautiful.

About *Cambo* the ſoil is chiefly clay and moory land, letts from 10*s.* to 20*s.* an acre. Farms from 30*l.* to 100*l.* a year. Their courſes are,

	1. Fallow	3. Oats
	2. Barley	4. Oats.
And,	1. Fallow	3. Oats
	2. Wheat	4. Oats.
Alſo,	1. Fallow	3. Oats.
	2. Rye	

But not often three crops to a fallow, upon the whole.

They

They plough four times for wheat, ſow three buſhels in *October* and beginning of *November*, and reap about 24.

For barley, they ſtir four times, ſow from four to five buſhels in *April*, and reckon the average produce at 35.

They ſtir but once for oats, ſow 7 buſhels after barley ſowing, and get upon a medium about 50 buſhels.

For rye they plough four times, ſow three buſhels and half (a vaſt quantity) and reap upon a medium 18 buſhels.

They give four earths for turneps, hoe them but once; and reckon the average value at 3*l. per* acre: Uſe them for ſheep, beaſts and cows.

Lime is their principal manure, lay a fother or ton *per* acre, that is, 24 buſhels, on fallow; the coſt 2*s.* 6*d.* Their hay they ſtack at home.

Good graſs land letts at from 20*s.* to 25*s.* an acre; they apply it chiefly to the dairy; an acre and half they calculate as a cow's ſummer feed

Their breed of cattle is the middling, between the long and ſhort horned: Their oxen they fat up from 50 to 100 ſtone, but generally 60.

They value the product of a cow at 4*l.* 10*s.* or 5*l.* feed them in winter on hay and ſtraw; of the former of which they eat about an acre and half, and always in a houſe. They keep three or four ſwine to ten cows. Their calves ſuck ſome three weeks or a month, and ſome not at all.

Their ſwine they fat from 20 to 30 ſtone.

About *Cambo* they keep no ſheep, upon account of the white-thorn hedges in their new incloſures; but within a mile or two from 100 to 1000; the profit they reckon at 8*s per* ſheep: Keep them both winter and ſpring on the commons.

They calculate that ſix horſes and ſix oxen are requiſite for the culture of 100 acres of arable. They uſe three horſes in a plough, or two horſes and two oxen,

oxen, and do three roods a day. Their allowance of oats is two buſhels of oats *per* horſe *per* week; and reckon the annual expence at 6*l.* 10*s.* The time of breaking up their ſtubbles for a fallow is in *March* or *April*. The price of ploughing 3*s.* an acre, and the depth five inches. The hire of a cart, three horſes, and a driver, is 3*s.* a day.

They reckon that a man ſhould be worth 300*l.* who hires a farm of 100*l.* a year.

Tythes are taken in kind.

Poor rates 6*d.* in the pound; their employment knitting and ſpinning.

Twenty-one miles is the diſtance the farmers carry their corn.

The following ſketches of farms will ſhew the general œconomy of the country.

	200 Acres in all	12 Cows
	150 Arable	20 Young cattle
	50 Graſs	1 Man
£	100 Rent	2 Boys
	8 Horſes	1 Maid
	8 Oxen	2 Labourers.
Another,	300 Acres in all	20 Cows
	150 Arable	20 Young cattle
	150 Graſs	2 Men
£	140 Rent	2 Boys
	10 Horſes	2 Maids
	8 Oxen	3 Labourers
Another,	90 Acres in all	5 Cows
	40 Arable	6 Young cattle
	50 Graſs	1 Boy
£.	50 Rent	1 Maid
	4 Horſes	1 Labourer.
	2 Oxen	

LABOUR.

In harveſt, 1*s.* and board.
In hay time, ditto.

In

In winter, 8*d.* and 10*d.* and ditto.
Headman's wages, 12*l.*
Next ditto, 8*l.*
Boy of ten or twelve years, 3*l.*
Maids, 3*l.* to 5*l.*
Women *per* day in harveſt, 1*s.* and dinner.
In hay time, 8*d.* and ditto.
In winter, 6*d.*

IMPLEMENTS.

No waggons.
A cart, 7*l.* 10*s.*
A plough, 20*s.*
A harrow, 12*s.*
A ſcythe, 2*s.* 6*d.* to 4*s.*
A ſpade, 3*s.* 6*d.*
Layi g a ſhare and coulter, 4*d.* and iron.
Shoeing, 6*d.* and iron.

PROVISIONS, *&c.*

Bread—rye, maſlin, and barley.
Cheeſe, 2*d.*
Butter, 6½*d.* 21 *oz.*
Beef, 3*d.*
Mutton, 3*d.*
Milk, ½*d.* three pints.
Potatoes, 1*s.* 6*d.* a buſhel.
Labourers houſe rent, from 5*s.* to 15*s.*
——— firing, 16*s.*

Wallington, the ſeat of Sir *Walter Blackett*, is a large handſome houſe, which appears, from the diſpoſition of the apartments, to be very convenient. We were ſhewn firſt into ſome common keeping ones, a library, dining parlour, *&c.* in which I remarked a piece of dead game, by *Hubener*, that was well done; and another of dancing dogs, groteſque enough. In the dining-room, of 40 by 21, the chimney-piece of white marble is handſome; the cieling of ſtucco work in ſcrolls, very light and pretty. Here is alſo another piece of dead game by *Hubener*, ſome of it well executed;

executed; and at the other end of the room the *portrait of a hat and ruffles.* Likewiſe a needlework ſcreen of tent ſtitch, very elegant.

The ſaloon, 40 by 22, and a good height; a moſt elegantly proportioned room. The cieling and the whole very neatly worked in ſtucco: The former coved, the center an oblong of moſaics; and the cove, ſcrolls and feſtoons. The chimney-piece handſome, of ſtatuary marble poliſhed; in the center, boys gathering grapes, in relievo The furniture of this room is very elegant. There are two ſlabs of very beautifully veined marble, or compoſition; and under them very fine china jars. In one corner of the room is a noble china ciſtern. The two girandoles of gilt carving, for ſeveral candles, are exceedingly light and elegant; and the china jars on the chimney-piece, very fine.

The drawing-room, 34 by 22, hung with ſilk and worſted crimſon damaſk. The cieling ornamented in ſtucco, with light ſcrolls, ſurrounding a center of boys emptying a *Cornucopia.* The chimney-piece of poliſhed white marble, with feſtoons of grapes, *&c.* Over it a landſcape, architecture, and trees, in a light, glowing, brilliant ſtile; extremely pleaſing, though not perfectly natural. Slabs very elegant, the glaſſes large, and the frames of both very neatly carved and gilt.

A dreſſing-room, 21 ſquare; and a bed-chamber, 22 by 21.

The new kitchen gardens are excellently diſpoſed, kept in admirable garden huſbandry, and the conveniency of water very great. The gardener's houſe is pleaſantly ſituated on the banks of the river; and, from ſeveral very neat bow window rooms, an agreeable view of three water-falls in the river.

It will not here be impertinent to add, that Sir *Walter Blackett*'s is the only place I have viewed, as a ſtranger, where no fees were taken.

The

The roads through Sir *Walter*'s eſtate, which is of very great extent, are excellent; a piece of magnificence which cannot be too much praiſed. The country is all newly incloſed, and Sir *Walter*'s hedges remarkably good; he ſeems very attentive to raiſe fine fences, for the white thorns are very regular, luxuriant, and kept perfectly clean from weeds. From *Wallington* to *Choleford Bridge* land letts from 10*s.* to 20*s.* an acre; farms from 100*l.* to 400*l.* a year.

From the latter place to *Glenwelt*, the country is all moor, but of an excellent ſoil: And, what is aſtoniſhing, vaſt tracts of *level valley*, not *gills*, as they are called in the North; that is, narrow ſeparations between the mountains, without level ground: And theſe breadths of flat ſoil are of an extraordinary depth and richneſs, and evidently want nothing but incloſing and draining to be made at once worth 30*s.* an acre; nor are theſe low lands of any trifling extent, but amount in quantity to ſome thouſands of acres. It is amazing, that in a country, in which a free exportation of corn *was* allowed for ſo many years, ſuch tracts of land ſhould remain in ſo deſert a ſtate. What infatuation in the ſuperior ſort of cultivators, to pay ſo high for land, in ſo many parts of the kingdom, while ſuch fertile waſtes remain uncultivated. Great part of this country is a green ſward, or what in *Yorkſhire* is called *White Land*.

About *Glenwelt* the ſoil is chiefly of three ſorts, ſand, gravel, and clay; letts from 5*s.* to 20*s.* an acre; and farms riſe from 10*l.* to 50*l.* a year. Their courſes are,

1. Fallow 2. Wheat 3. Barley 4. Oats.
And, 1. Fallow 2. Barley 3. Wheat 4. Oats.
Alſo, 1. Turneps 2. Barley 3 Oats.

They plough four or five times for wheat, ſow three buſhels either in *September*, *October*, or *November*; and reap at an average thirty buſhels. For barley they ſtir two or three times, ſow three buſhels about the end of *April*, or the beginning of *May*,

and get at a medium four quarters. They give but one ploughing for oats, ſow ſix buſhels before barley ſowing, and get ninety buſhels at a medium. For beans they plough but once after barley, ſow five or ſix buſhels before oats, never hoe, and get on good land ſo high as ſeventy buſhels: They uſe them for horſes, and ſome the poor grind for bread. They give but one ſtirring for peaſe, ſow five buſhels about the time of beans; and as to crop, ſometimes they get thirty buſhels, and at others not the ſeed.

They ſow but little rye—the culture is to plough four times, ſow two buſhels and a half, and the crop does not, upon an average, exceed 35 buſhels.

Turneps are not much cultivated; but they plough five times for them, hoe them once, the average value *per* acre 50*s.* and uſe them for oxen and ſheep.

Clover they ſow with barley; generally mow it twice for hay, get two tons and a quarter, and ſow wheat after it.

For potatoes they plough four times, dung the land at the rate of twelve loads of long horſe dung, laying it in the furrows, and the ſlices on it; twenty buſhels plant an acre in rows, one foot aſunder every way: They hoe them twice, and reckon the crop in general from 200 to 240 buſhels. They ſow wheat or barley after them; but the land is in excellent order for any thing.

Lime is their principal manure; they lay about 100 buſhels *per* acre upon every fallow, which coſt about 20*s.* They have ſome little paring and burning.—No folding of ſheep. They ſtack their hay both in the field and at home.—No chopping of ſtubbles.

Good graſs letts at 20*s.* They uſe it both for fatting and milking, and reckon that an acre will carry a cow through ſummer, or five ſheep; but they are tolerably careful in manuring it.

Their breed of cattle is between the long and ſhort horns; the oxen fat to 50 ſtone; and they reckon the product

product of a cow at 4*l.* they reckon that each makes three firkins of butter, and gives four gallons of milk a day; but nine gallons has been known. They keep very few ſwine to their cows, ſome none at all, others two, three, or four, to twelve cows. Their winter food hay and ſtraw, of the firſt of which they generally eat a ton. The calves do not ſuck at all to rear, but for the butcher a month or five weeks. A dairy maid can take care of ten. The winter joiſt 30*s.* and the ſummer the ſame. They keep them all winter in the houſe.

Their flocks riſe from 20 to 500, and they calculate the profit of them at 5*s.* a head. Their winter and ſpring food the commons alone; and the weight of their fleeces on an average not above 3*lb.*

They reckon four oxen and four horſes neceſſary for the culture of 100 acres of arable land; uſe two of each in a plough, and do an acre a day: They allow each horſe two buſhels of oats a week; and reckon the annual expence of keeping, &c. at 10*l.* The ſummer joiſt is 3*l.* The winter food of their draught oxen is hay and ſtraw, but they work them on ſtraw alone: They reckon oxen much the beſt on ſtoney and on unlevel ground; but on other land horſes. The time of breaking up their ſtubbles for a fallow is at *Candlemas:* Their depth of ploughing four inches, and 6*s.* the hire *per* acre. That of a cart and horſes 3*s.* 6*d.*

They reckon 400*l.* neceſſary for the ſtocking a farm of 100*l.* a year.

Land ſells at from 30 to 40 years purchaſe. Many eſtates from ſmall rents to 100*l.* or 200*l.* a year.

Poor rates 1*s.* 6*d.* in the pound. The employment ſpinning and knitting.—Very few drink tea.

The farmers carry their corn nine miles.

The general œconomy of the country will partly appear from the following particulars.

130 Acres in all	£ 60 Rent
60 Arable	3 Horſes

	3 Oxen	100	Sheep
	9 Cows	1	Man
	20 Young cattle	1	Boy
	3 Fatting beaſts	1	Maid
Another,	200 Acres in all	22	Young cattle
	80 Arable	5	Fatting beaſts
	120 Graſs	300	Sheep
£.	80 Rent	2	Men
	4 Horſes	1	Boy
	4 Oxen	2	Maids.
	10 Cows		
Another,	80 Acres in all	5	Cows
	20 Arable	2	Young cattle
	60 Graſs	20	Sheep
£	35 Rent	1	Boy
	3 Horſes	1	Maid.

LABOUR.

In harveſt, 8*d.* and board.
In hay time, 6*d.* ditto.
In winter, ditto.
Threſhing, the 20th.
Head-man's wages, 10*l.*
Next ditto, 6*l.*
Boy of ten or twelve years, 20*s.*
A dairy maid, 5*l.*
Other maids, 4*l.*
Women *per* day in harveſt, 8*d.* and board.
In hay time, 6*d.* and ditto.
In winter, 4*d.* and ditto.

IMPLEMENTS.

No waggons.
A one horſe cart, 3*l.* 10*s.*
A plough, 25*s.*
A harrow, 7*s.* 6*d.*
No rollers.
A ſcythe, 4*s.* 6*d.*
A ſpade, 3*s.*
Laying a ſhare and coulter, 6*d.* and iron.
Shoeing, 2*s.*

PROVI-

PROVISIONS, &c.

Bread—barley and peaſe and beans, and oatmeal.
Cheeſe, 2*d.*
Butter, 16 *oz.* 6*d.*
Beef, 3*d.*
Mutton, 2½*d.*
Veal, 2*d.*
Pork, 3*d.*
Milk, ½*d.* pint, new.
Potatoes, 6 gallons, 8*d.*
Candles, 6*d.*
Soap, 5½*d.*
Labourer's houſe-rent, 10*s.* to 20*s.*
——— firing, 10*s.*

BUILDING.

Oak timber, 1*s.* to 2*s.* 6*d.* *per* foot.
Aſh, ditto.
Elm, ditto.
A maſon *per* day, 1*s.* 6*d.*
A carpenter, 1*s.* 6*d.*
A thatcher, 1*s.* and board.
Stone walling 4*s.* 6*d.* a rood building, and from 1*s.* to 2*s.* 6*d.* cutting; the common height ſeven quarters.

Some moor land is every year incloſed and improved in this neighbourhood: Their method is to plough it up in winter, to fallow it the ſucceeding ſummer, and lay 90 or 100 buſhels of lime *per* acre; they ſow rye upon it, and get 50 or 60 buſhels *per* acre; Then a ſecond crop of rye, of 35 or 40 buſhels: Next oats, of which they have 60 or 70 buſhels; with this crop ſome throw in a few graſs ſeeds, but the moſt common method is to leave it to turf itſelf. They pay no rent of ſuch land for the firſt ſeven years, but

10s. an acre afterwards, for 21 years, or any other time.

Some pare and burn, but the number very few: They ſow rye twice, and oats as in the other method: The crops of corn are better in the paring and burning, but they reckon the ſucceeding graſs not ſo good. They always incloſe before this improvement, as it is called.

Much of their moory ſoil is the black rotten moſſy land; but ſome of it white land, which is very good. The boggy parts they cut a few open drains through, to better the herbage, by laying it a little dry, but never attempt any other improvement. In many of theſe moors the ſoil is very deep, but in ſome places ſhallow, with the rock near the ſurface.

From *Glenwelt* I walked about half a mile to view ſome of the remnants of the famous *Roman* wall: The moſt perfect remain of it is on the edge of a rocky precipice, a piece about five feet high, and ſeveral yards long; the facing is of regularly cut free ſtones, but I meaſured none of them above thirteen inches long and ſeven broad; the mortar in the facing is quite gone, but much of it remains in the middle, the filling up; very little of it is of that hard nature found in ſome ancient buildings, but crumbles with eaſe between the fingers. The ſtones of the facing are cut very regularly, and well laid; the workmanſhip undoubtedly very good. Not far from this wall the remains of an earth entrenchment, thrown up for the ſame purpoſe, are ſeen in a parallel line with it.

North from *Glenwelt*, about five miles on the river *Arden*, is a natural curioſity, very well worth viewing: It is a very fine rock of petrified moſs. A dripping ſtream falls over a rock hung thick with moſs, which petrifies, and is taken from the rock in that ſtate: It is ſoft at firſt, but hardens upon being dry, and remains in ſtone in a moſt beautiful pierced form. The rock itſelf is extremely beautiful, and hangs

over your head in a picturesque grotto stile, quite romantic.

As I enter *Cumberland* to-morrow, you must permit me to conclude this letter with a few remarks on the husbandry in general of the extensive county of *Northumberland*.

The farms become large almost immediately on entering into it, after the small ones of *Yorkshire* and *Durham*, and rise in many parts of it to be as great as any in the kingdom, if not the greatest; but they must be divided into two classes, those which consist of cultivated lands, and others which are chiefly moor farms.

The husbandry of the first is much superior to that of the two preceding counties; and that not only in one or two trifling articles, but in many very important ones. Manuring is carried on with greater spirit; lime is used in larger quantities; and they understand better the management of the farm-yard manure.—Hoeing of turneps is a pregnant instance; I found it coming into practice at *Gosworth*, and all hoed about *Morpeth*. The potatoe culture is carried on upon a much larger scale: And, in short, the whole management better, and more spirited.

With the other class, this is not the case: The grand article of their agriculture is the improvement of moors; and a viler or more slovenly husbandry than theirs, in this branch, can no where be found. The ploughing up wastes, without a previous inclosure, and breaking up the deepest soils, without paring and burning;—the sowing two, three, and even four crops of corn running, upon a ploughing up, and liming;—the leaving the exhausted soil to turf itself, in some places, and only scattering a little ray-grass in others;—the keeping 8 and 10,000 sheep, and never folding:—All these are strokes of barbarism, which tend to damp and even extinguish the spirit of improvement, from the infallible want of success, and to the leaving a country, after what is here called

improvement, in as miſerable and waſte a ſtate as before it was begun.

The occupiers of large farms, who are conſequently men of conſiderable ſubſtance, are, in moſt parts of *England*, the greateſt of all improvers: Nature takes a new face under their hands; whole counties are converted at once from deſarts, into finely cultivated countries; But here we meet with no improvements that deſerve the name; nothing laſting; three or four tolerable crops, and then the land left as deſolate as ever, in the true ſpirit of a little louſy farmer of 20*l.* a year. Unworthy thoſe who occupy as many hundreds!

While moors are thus *improved*, I do not much wonder at ſeeing ſo much waſte land in *Northumberland:* But ſurely the landlords are ſtrangely remiſs, in not introducing better cuſtoms; letting no tracks without their being incloſed, and reſtraining their tenants from exhauſting the ſoil by continued crops; obliging them, at the ſame time, to lay it down to graſs, in a given manner: But this muſt be done by practiſing ſuch methods themſelves, that the ſucceſs may juſtify the propoſal: If the farmers of the country are, nevertheleſs, backward in following ſuch examples, men of large eſtates can well afford the importation of others, from counties whoſe cultivators are more informed.

It is very melancholy to ride through ſuch vaſtly extenſive tracks of uncultivated good land, as are found in every part of this country; And it is equally unfortunate, that ſo many men of ſubſtance, in the farming way, ſhould tread perpetually in the beaten route, and hire land, in ſo many parts of *England*, at an enormous rent, while ſuch quantities are to be had almoſt for nothing. This is truly the *cultuſque habituſque locorum prædiſcere.*

Glenwelt, I remain yours, &c.

LETTER

LETTER XVIII.

FROM *Glenwelt* to *Brampton*, I paſſed over ſome moors of an excellent ſandy loam, and yet quite uncultivated. The incloſed lands are good, lett from 10*s*. to 25*s*. *per* acre, farms from 10*l*. to 100*l*.

At *Carliſle* is a conſiderable ſtampery of printed cottons, eſtabliſhed by ſome manufacturers from *Newcaſtle*; the labourers in it earn from 1*s*. to 3*s*. a day. Alſo a manufacture of checks, which employs many looms; the earnings from 1*s*. to 1*s*. 3*d*. a day.

Three miles to the ſouth of *Carliſle*, land letts about 15*s*. an acre at an average. Farms from 20*l*. to 200*l*. a year. In as many more, they are not ſo large, from 30*l*. to 120*l*. and rents from 2*s*. to 20*s*. an acre.

About *High Aſcot* the ſoil varies from a light loam and gravel to a clay, letts from 10*s*. to 20*s*. an acre. Farms from 10*l*. to 100*l*. a year.

The courſes are,

1. Fallow 2. Wheat 3. Oats. 4 Peaſe.

And, 1. Turneps 2. Barley 3. Clover for 3 years.

For wheat they plough three or four times, ſow three buſhels, and reap about twenty. For barley they plough twice, ſow three buſhels, and reckon the average produce the ſame as of wheat. They ſtir but once for oats, ſow ſeven buſhels and an half, and gain fifty in return. For peaſe they likewiſe plough but once, ſow three buſhels, and gain at a medium fifteen. They ſtir twice or thrice for rye, ſow three buſhels, generally in *February* or *March*, (a very remarkable time,) and reap twenty. They cultivate ſome few turneps; plough three or four times for them;

them; a few farmers hoe them: The medium value they reckon at 50*s.* an acre; and uſe them for cattle and ſheep. Clover they ſow with barley or oats, generally mow it for hay, and get about a ton at a mowing.

For potatoes they plough thrice, give the land a good coat of dung; chuſe the dryeſt ſoils for them; and lay the ſlices in every other furrow, one foot from plant to plant. On coming up they plough between the rows, to deſtroy the weeds; a practice one would ſuppoſe ſufficient to introduce a good turnep culture univerſally; for thoſe who ſee the effects of this operation on potatoes might ſurely extend the idea to turneps.—They get 300 buſhels *per* acre, and ſow rye after them.

Good graſs letts at 20*s.* an acre; they apply it chiefly to dairying, and reckon that an acre and half will feed a cow through the ſummer; and an acre carry four ſheep: Very few of them manure their graſs. Their breed of cattle is the long horned, which they account much the beſt. Their beaſts they fatten to about forty ſtone.

The product of a cow they reckon at 50*s.* or 3*l.* that a middling one will give from two to four gallons of milk a day, and make from four to ſeven pounds of butter a week. They have no notion of keeping hogs in conſequence of cows; a dairy of twenty not maintaining above one or two. The winter food of their cows is ſtraw or hay, a ton and half of which is the quantity they commonly ſuppoſe a cow to eat in the winter; but if clover hay is uſed, one ton is enough.—The ſummer joiſt is 25*s.* and that of winter 30*s.* and 35*s.* They reckon ten cows the buſineſs of a dairy maid.

Their flocks of ſheep riſe from 20 to 120, and the profit they reckon at 6*s.* a head; lamb 5*s.* and wool 1*s.* They keep them the year round on the commons:—The average weight of fleeces 4*lb.*

In

In the management of their arable lands they reckon ſix horſes neceſſary for 100 acres of arable; they uſe two in a plough, and do an acre a day. The annual expence of keeping horſes they reckon at 5*l.* 10*s.* or 6*l.* The joiſt in winter 40*s.* in winter 50*s.* They break up their ſtubbles for a fallow in *February*; plough ſix inches deep: The price of ploughing 5*s.* an acre; and of a cart and horſe and driver 2*s.* or 3*s.* a day. They know nothing of cutting ſtraw for chaff.

Three hundred pounds they reckon neceſſary for a man to ſtock a farm of 100*l.* a year.

Tythes are generally gathered. Poor rates 6*d.* in the pound; the employment of the women and children ſpinning and knitting.

The farmers carry their corn nine miles.

The general œconomy will appear from the following ſketches of farms.

100	acres in all	1 fatting beaſt
60	arable	10 young cattle
40	graſs	80 ſheep
£. 70	rent	1 man
4	horſes	1 boy
6	cows	1 maid.
Another, 140	acres in all	22 young cattle
86	arable	30 ſheep
54	graſs	1 man
£. 95	rent	2 boys
7	horſes	1 maid
12	cows	1 labourer.
2	fatting beaſts	
Another, 125	acres in all	2 fatting beaſts
55	arable	50 ſheep
70	graſs	1 man
£. 70	rent	1 boy
4	horſes	1 maid
9	cows	1 labourer.
26	young cattle	

Another,

Another,	80 acres in all	13 young cattle
	40 graſs	30 ſheep
	40 arable	1 man
	£. 70 rent	1 maid
	5 cows	1 boy.
	1 fatting beaſt	
Another,	50 acres in all	1 fatting beaſt
	20 arable	2 young cattle
	30 graſs	20 ſheep
	£. 35 rent	1 boy.
	3 cows	

LABOUR.

In harveſt, 4*s.* a week, and board.
In hay time, 1*s.* a day, and board.
In winter, 8*d.* and ditto.
Mowing graſs, 2*s.* an acre.
Ditching, $3\frac{1}{2}d.$ to 8*d.* a rood.
Headman's wages, 10 to 12*l.*
Next ditto, 7*l.* to 7*l.* 7*s.*
Boy of 10 or 12 years, 25*s.*
Dairy maids, 2*l.* 10*s.* to 3*l.*
Other ditto, 2*l.* 5*s.* to 2*l.* 10*s.*
Women in harveſt, 4*s.* a week, and board.
In hay time, 8*d.* and board a day.

IMPLEMENTS.

No waggons.	No rollers,
A cart, (one horſe) 3*l.* to 5*l.*	A ſcythe, 3*s.* 6*d.*
A plough, 1*l.* 11*s.* 6*d.*	A ſpade, 2*s.* 6*d.*
A harrow, 1*l.* 10*s.*	Shoeing, 2*s.*

PROVISIONS, *&c.*

Bread——barley, and barley and rye, $\frac{1}{4}d.$
Cheeſe, — 2*d.*

Butter,

Butter, — 6*d.*
Beef, — 3*d.*
Mutton, — 2*d.*
Veal, — 2½*d.*
Pork, — 4*d.*
Milk, — ½*d. per* pint.
Potatoes, — 4*d.*
Candles, — 7*d.*
Soap, — 7*d.*
Labourer's houſe-rent, 10*s.* to 20*s.*

BUILDING.

Oak timber, 8*d.* to 2*s.*
Aſh, 1*s.* 6*d.*
Maſon, 1*s. per* day, and board.
Carpenter, ditto.

Slate at the quarry,	—	0 16*s.* 0
Laying,	—	0 13 0
Leading eight miles,	—	1 4 0
Total per rood,		2 13 0

Stone walls, 6*d.* a yard workmanſhip, and 1*s.* 6*d.* every thing except lime.

About *Penrith* there are variations, which deſerve noting—The ſoil is of divers ſorts, clay, ſand, gravel, loam, and black moory earth. The medium rent of that incloſed is 15*s.* the unincloſed, 2*s.* 6*d.* and 3*s.* 6*d.*

Farms riſe from 10*l.* a year, ſo high as 700*l.* but in general from 80*l.* to 150*l.* Their courſes are,

1. Turneps
2. Barley
3. Clover
4. Wheat
5. Oats

Another, 1. Oats on the graſs broke up.
2. Barley
3. Oats
4. Oats
5. Peaſe
6. Barley

This

This is capital indeed! but very common; for much land, even within two or three miles of *Penrith*, hath been ſown every year with either barley, oats, or peaſe, for theſe ſeventy years. This information aſtoniſhed me; I inquired the produce on ſuch land, and found it reckoned as good, upon the whole, as other ſoils, managed upon more modern principles; five or ſix for one of oats, and when wheat happens to be ſown, ten or eleven for one. Fallowing is a *new faſhion*, and not perfectly reliſhed by the farmers yet.

In a common way they generally plough for wheat from three to ſix times, ſow two buſhels about *Michaelmas*, and gain, upon an average, about three quarters. For barley they plough from once to thrice, ſow two buſhels and a half in *April* or *May*, and gain about 25. Sometimes barley is ſown on new broke up land, and the produce 50 buſhels. They give but one ſtirring for oats, ſow four buſhels before barley ſowing, and get 28 in return. For peaſe they give but one earth, ſow two buſhels, and get in return about 16; generally uſe the grey rouncivals. They give from three to five ploughings for rye, ſow two buſhels, the crop about 24.

For turneps they give three or four earths, never hoe, and reckon the average value *per* acre at 50*s*. uſe them for ſheep, and fatting of beaſts. Clover they ſow with either barley or oats, generally mow it once, (three times have been known,) and get two tons of hay *per* mowing.

They prepare for potatoes by ploughing twice or thrice; dung the land with long horſe dung; lay the ſetts in every other furrow, ten inches aſunder, and hand-hoe between them if weedy; ſometimes they horſe-hoe them: If the land is deſigned for wheat, they lime it about *Midſummer*, while the potatoes are growing. The crops riſe to 200 buſhels *per* acre, but the average about 120; price about 2*s*. a buſhel.

Lime

Lime is their principal manure, though but of a few years ſtanding: They lay 90 buſhels *per* acre on their arable lands; coſts them from $1\frac{1}{2}d.$ to $3d.$ *per* buſhel, beſides leading; they lay it on every fallow: They likewiſe uſe it on their meadows, and find it to anſwer well. But dung they reckon much better for every thing. They prepare and burn a little, at the expence of $24s.$ an acre. No folding ſheep, nor chopping ſtubbles. Stack their hay in buildings.

Good graſs letts from $15s.$ to $20s.$ an acre: They uſe it both for dairying and fatting beaſts; reckon that an acre will ſummer feed a cow, or feed five ſheep. Their breed of cattle the long horned, which they think much the beſt; their oxen they fat to about 40 ſtone.

The product of a cow they calculate at $4l.$ $10s.$ and generally have two firkins of butter from each: the medium quantity *per* week about 7 *lb.* but ſometimes 14 *lb.* *per* cow. They keep but few ſwine in proportion to their dairies, not above two to ten cows. The winter food is ſtraw and hay; of the latter about a ton a head. They reckon a dairy maid can manage ten cows. 25 or $30s.$ the ſummer joiſt. In winter they keep them all in the houſe.

They reckon $3l.$ the profit on ſummer fatting a beaſt of fifty ſtone. Swine fat from $50s.$ to $4l.$ $4s.$ a head.

Their flocks of ſheep vary greatly; from 40 to 3000: The profit they reckon $5s.$ each; that is, lamb $4s.$ and wool 1. They feed them both winter and ſpring on the commons. The average of the fleeces 3 *lb.*

They reckon ſix horſes neceſſary for the management of 100 acres of arable land; uſe two or four in a plough, as the ſoil is, and do three acres in two days. They account the expence of keeping a horſe at $6l.$ a year. The ſummer joiſt $2l.$ $2s.$

They do not begin to fallow till after the barley ſowing.

ſowing. The price *per* acre of ploughing 5*s.* and 5*s.* 6*d.* and the common depth four inches.

They know nothing of cutting ſtraw for chaff. The hire of a one horſe cart 2*s.* 6*d.* a day.

Three hundred pounds they aſſert is a ſum ſufficient for ſtocking a farm of 100*l.* a year.

Land ſells in general at about thirty years purchaſe.

Tythes in general gathered

Poor rates at *Penrith* 1*s.* 3*d.* in the pound. In the country pariſhes 6*d.* and upwards, but in ſome nothing at all. The employment of the women and children ſpinning, and ſome knitting: All drink tea.

Many eſtates from 40*l.* to 200*l.* a year.

The corn is generally brought to *Penrith*, and ſent to *Kendal* by carriers.

The following are particulars of ſeveral farms.

	2000 acres, all graſs	2000 ſheep
	£. 200 rent	1 man
	5 horſes	1 boy
	20 cows	2 maids
	40 young cattle	4 labourers.
Another,	100 acres in all	24 young cattle
	40 arable	100 ſheep
	60 graſs	1 man
	£. 70 rent	1 maid
	6 horſes	1 boy
	10 cows	1 labourer.
	4 fatting	
Another,	240 acres in all	30 young cattle
	120 arable	200 ſheep
	120 graſs	1 man
	£. 100 rent	1 boy
	8 horſes	2 maids
	12 cows	2 labourers.
	8 fatting beaſts	
Another,	80 acres in all	£. 55 rent
	60 graſs	3 horſes
	20 arable	4 cows
		10 young

10 young cattle 1 maid.
1 boy

LABOUR.

In harveſt, 1*s.* 6*d.* and beer.
In hay time, 1*s.* 3*d.* and ditto.
In winter, 10*d.* and ditto.
Reaping corn, 3*s.* to 5*s.*
Mowing graſs, 1*s.* to 2*s.* 6*d.*
Ditching, 8*d.* a rood.
Threſhing wheat, 2*d.* to 2½*d.*
——— barley, 1½*d.*
——— oats, 1½*d.*
Headman's wages, 12*l.* to 14*l.*
Next ditto, 9*l.*
Boy of ten or twelve years, 3*l.*
Dairy-maid, to 6*l.*
Other maids, 3*l.* to 4*l.*
Women *per* day, in harveſt, 10*d.* and beer.
In hay time, 8*d.* and ditto.
In winter, 6*d.* and ditto.

IMPLEMENTS, *&c.*

No waggons.
A cart, 4*l.*
A plough, 1*l.* 11*s.* 6*d.*
A harrow, 16*s.*
A roller, 10*s.* 6*d.*
A ſcythe, 2*s.* 6*d.* to 4*s.*
A ſpade, 2*s.* 6*d.* to 3*s.* 6*d.*
For ploughs, the farmers find their own iron.
Shoeing, 2*s.*

PROVISIONS, *&c.*

Bread—oats, and barley and rye mixed; coſt ½*d.* ¾*d.* and 1 *d. per lb.*
Cheeſe, 2*d.*
Butter, 6*d.* 18 *oz.*
Beef, 2½*d.*
Mutton, 2½*d.*

Veal, 2*d.*
Pork, 3*d.*
Milk, 1*d.* three pints ſkimmed.
Potatoes, 3*d.*
Candles, 7*d.*
Soap, 7*d.*
Labourer's houſe rent, 20*s.*
——— firing, 30*s.*

BUILDING.

Bricks, 11*s per thouſand.*
Slate, 1s. 6*d. per* hundred—It is at quarry, *per* rood, — — — 0 12*s.* 0
Leading four miles, — — 0 12 0
Laying on, — — — 0 12 0

£. 1 16 0

Stone walls, 6*d.* a yard work; and getting and leading, 1*s.* 8*d.*
Oak, 9*d.* to 3*s.*
Aſh, 6*d.* to 2*s.*
Elm, ditto.
A maſon 1*s.* 8*d. per* day
Carpenter, 1*s.* 8*d.*
Thatcher, 1*s.* 6*d.*

Keſwick had too long been an object of deſire with me to neglect the opportunity of ſeeing it: I went thither from *Penrith:* But before I attempt any thing of a deſcription, let me mention matters of huſbandry. The country between theſe towns is various, much of it moors, and quite uncultivated, though evidently capable of it, which is melancholy to reflect on. About *Keſwick*, the huſbandry is as follows:

The ſoil is both a hazel mould, ſand, gravel, and moory; the firſt but ſhallow: The incloſed letts from 20*s.* to 30*s.* a right of commonage included.

Farms, from 10*l.* to 80*l.* a year.

Their

Their courſe,

1. Oats on turf
2. Fallow
3. Barley
4. Wheat
5. Oats, and graſſes.

They plough twice for wheat, ſow two buſhels and an half, about *Michaelmas* and reap 35 to 40, upon an average. They alſo ſtir twice for barley, ſow ſix buſhels in *April* or *May*, and reap 40 in return. For oats they ſtir but once, ſow ſeven buſhels, and gain 50. They have no beans, very few peaſe, and as little rye. They ſtir three times for turneps, hoe them once or twice; the average value about 55*s*. uſe them for feeding ſheep and ſtall-fatting oxen They know but little of clover; one or two farmers have tried it with barley, but found it good for nothing: It muſt have been upon ſtrange land.

They have two ways of cultivating potatoes, by ploughing and digging: In the firſt, they ſtir three times, and dung the land well, lay the ſlices in every other furrow, one foot aſunder, and plough between them once while growing, beſides hand weeding: They plough them up, and get 2, 3, and 400 buſhels *per* acre.

Their other way is the lazy-bed method; they lay the dung on the green ſward, the ſlices on that, then they dig trenches, and with the earth cover the ſetts, but they reckon ploughing a better way.

Good graſs land letts at 30*s* an acre; uſe it moſtly for dairying; an acre and half they reckon ſufficient for a cow, and an acre for four ſheep: Manuring it is common. Their breed of cattle is the long horned, and they reckon them beſt: Fat their oxen to fifty ſtone; their ſwine to twenty-four, or thirty.

The product of a cow they reckon at 3*l*. 13*s*. 6*d*. and ſix gallons *per* day a common quantity of milk *per* cow: Do not keep above one hog to ten. The winter food, ſtraw and hay; of the latter they eat about two tons. The ſummer joiſt is 35*s*. In winter

they are kept in the houſe: Their calves ſuck about two months

Their flocks riſe from 100 to 1000; the profit they reckon at 4*s* 3*d* a head: that is, lamb 3*s*. and wool 1*s* 3*d*. ſometimes 5*s* They keep them, in both winter and ſpring, on the commons. The average weight of the fleeces, 4*lb*

In their tillage, they reckon that twelve horſes are neceſſary for the management of 100 acres of arable land: They uſe ſometimes four, and ſometimes two in a plough, and do an acre a day with them. The annual expence of keeping a horſe they reckon at 6*l*. 10*s*. the ſummer joiſt *l*. 2*s*.

The price of ploughing, *per* acre, is from 5*s* to 6*s* and *March* the time of breaking up for a fallow. The hire of a cart and horſe 3*s* a day.

In the hiring and ſtocking of farms, they reckon 360*l*. or 400*l* neceſſary for one of 80*l*. a year.

Land ſells at from 35 to 40 years purchaſe.

Poor rates 9*d*. in the pound —The employment of the women and children, ſpinning, and winding yarn.

No ſmall eſtates.

The following particulars of farms will ſhew their general œconomy

	100 acres in all	20	young cattle
	90 arable	400	ſheep (common right)
	10 graſs		
£.	50 rent	1	man
	8 horſes	1	maid
	10 cows	1	boy
	4 fatting beaſts	1	labourer.
Another,	220 acres in all	5	fatting beaſts
	100 graſs	400	ſheep (right of common)
	120 arable		
£.	80 rent	1	man
	12 horſes	2	maids
	22 cows	2	boys
	30 young cattle	3	labourers.

Another,

Another, 130 acres in all
50 arable
80 graſs
£. 95 rent
6 horſes
12 cows
18 young cattle
200 ſheep (right of common)
1 man
1 maid
1 boy.

Another, 70 acres in all
20 arable
50 graſs
£. 50 rent
4 horſes
8 cows
2 fatting beaſts
200 ſheep (common right)
1 boy
1 maid

LABOUR.

In harveſt, 1*s.* and beer.
In hay-time, ditto
In winter, 6*d.* and board.
Reaping wheat, 6*s.*
Mowing graſs, 2*s.*
Ditching, 4*d.* to 5*d. per* rood.
Firſt man's wages, 10*l.* to 11*l.*
Next ditto, 6*l.*
Boy of 10 or 12 years, 3*l.* to 3*l.* 10*s.*
Dairy maids, 4*l.* 14*s.* 6*d.*
Other ditto, 3*l.* 3*s.*.
Women *p r* day in harveſt, 1*s.* and beer.
In hay time, ditto.
In winter, 6*d.* and beer.

IMPLEMENTS.

No waggons.
A cart for two horſes, 7*l.*
A plough, 1*l.* 5*s.*
A harrow, 10*s.*
A roller, 14*s.*
A ſcythe, 3*s.* to 5*s.*
A ſpade, 2*s.* 8*d.*
Shoeing, 2*s.*

PROVISIONS, &c.

Bread—oat and barley, $\frac{3}{4}$ *d. per lb.*
Cheeſe, 2*d.*
Butter, 6*d.* 16 to 18 *oz.*
Beef, 2*d.*
Mutton, $2\frac{1}{2}$*d.*
Veal, 2*d.*
Pork, 3*d.*
Milk, $\frac{1}{2}$ a pint
Potatoes, $2\frac{1}{2}$*d.* a peck.
Candles, 7*d.*
Soap, 6*d.*
Labourer's houſe rent, 20*s.*
——— firing, 25*s.* but many on hedge breaking alone.

BUILDING.

Oak, 1*s.* 8*d.* to 2*s.* 6*d.*
Aſh, 1*s.* 6*d.* to 2*s.*
Maſon *per* day, 1*s.* 6*d.*
Carpenter, ditto.
Slate, 28*s.* a rood, getting and laying.

Now, Sir, for the glory of *Keſwick*,—its Lake, ſo famous all over *England*. Let me firſt inform you, that it is by computation ten miles round, of an oblong figure, and incloſed by a prodigious range of formidable mountains, of ſuch a height that they are cloud-topped for ſeveral months in the year. The beſt way of viewing it is to row round the lake, and land now and then for catching the varieties of the proſpect.

You walk from the town firſt down to *Cockſhut-hill**, a ſmall riſing ground, within the amphitheatre

* I ſhould apologize for many barbarous, and, probably, wrong ſpelt names, for they are taken from the people at *Keſwick*. I have no where met with them in print.

of

of mountains, and has been lately planted. The view of the lake from hence is very beautiful: You have a moſt elegant ſheet of water at your feet, of the fineſt colour imaginable, ſpotted with iſlands, of which you ſee five, and are high enough to command the water around them. One is in the middle, of about five acres of graſs land, with a houſe under a clump of trees on one ſide of it, the whole object beautifully pictureſque: You look alſo upon another planted with *Scotch* firs; and alſo upon three others more diſtant. This is the view of the floor of this noble amphitheatre; the walls are in different ſtile—ſublime. To the left you look firſt on a hilly rock, partly covered with ſhrubby wood; and further on, upon a chain of tremendous rocks, near 400 yards high; their feet are ſpread with hanging woods, but their heads bare, broken, and irregular. Following the line the lake ſeems to loſe itſelf among a wood of rocks and mountains, the tops riſing one above another in the wildeſt manner imaginable: The oppoſite ſhore preſents you a full view of a vaſt range of hills; and behind, you look upon the prince of the ſurrounding mountains, *Skiddow*, whoſe tremendous head towers above the clouds.

Leaving this hill you walk down to your boat, and are ſtruck with the limpid tranſparency of the water, which almoſt exceeds belief; the bottom is quite paved with ſtones, and the white ones glitter through the tremulous curl of the ſurface like ſo many diamonds. You row to the left paſs, a variety of ſhore, here rocky and projecting, there low and retiring, coaſt a planted iſland, and coming under *Wallow Crag*, one of the immenſe rocks before mentioned, you have from its foot a very fine view: The ſurrounding rocks and mountains are truly noble; the crag above you, fringed about a third of its height with pendent woods; the lake at your feet breaks beautifully into a bay behind a promontory, called *Stable-hills*; againſt

it is *Brampſholm Iſland**; and over the low part of the promontory you catch the wood on *Lord's Iſland*, in a very pleaſing manner. The oppoſite ſhore is beautifully ſcattered with hanging woods, and ſome white houſes give a livelineſs to the view truly pleaſing.

Taking your boat again, and rowing till you are oppoſite the opening between *Wallow* and *Barrow Crag*, the noiſe of a water-fall unſeen, will induce you to land again; walking on to a little ruinous bridge, you look upon a romantic hollow of rocks and woods, with a ſtream pouring down the clefts in many ſheets, and ſeen among the trees in the moſt picturesque manner; a romantic ſcene of rock, and wood and water thirty feet high.

Rowing from hence, under *Barrow Crag*, the ſhore is rocky, and various: Paſſing ſome low ground, and landing on a riſing one, the view is exquiſite. The water breaks in the moſt beautiful manner imaginable, into bays and ſheets, ſtretching away from the eye moſt glorioufly, between the *Stable-hills*, *Lord's Iſland*, and *Vicar's Iſland*: *Brampſholm* cuts in the middle; and *St. Alban's Iſle* preſents his broad ſide to your full view. At the other end of the lake, the riſing hills, part of cultivated, waving incloſures, and part of hanging woods, all ſcattered with white houſes, and the whole crowned with the lofty mountains, are beautifully picturesque, and contraſt finely with the view of the ſouth end of the lake, around which the rocks and mountains are tremendouſly bold, pendent, and threatening.

Following the coaſt, the ſhore is thinly fringed with wood; then you row around a projecting land, containing ſeveral incloſures, and come under a fine, thick, hanging wood, with a raging torrent breaking through it, over rocks, juſt ſeen between the wood and *Barrow ſide*, but heard in the moſt romantic

* Belonging to *Greenwich* Hoſpital.

manner.—

manner.—You next anchor in a bay, the environs of which are dreadful; you are under a monſtrous craggy rock, *(Throng Crag,)* ſcattered with ſhrubby wood to the very edge, and almoſt perpendicular; and moving the eye from the formidable object, you find this end of the lake ſurrounded with a chain of them, in the boldeſt and abrupteſt ſtile imaginable. The oppoſite ſhore of mountains very great; and noiſe of diſtant water-falls heard moſt glorioufly.

From hence you coaſt a dreadful ſhore of fragments, which time has broken from the towering rocks, many of them of a terrible ſize; ſome ſtopped on the land by larger than themſelves, and others rolled into the lake, through a path of deſolation, ſweeping trees, hillocks, and every thing to the water; the very idea of a ſmall ſhiver againſt the boat ſtrikes with horror.

Advancing, you catch the view of a moſt beautiful water-fall, within the wave of a gentle bend of the rocks; but to enjoy the full luxuriance of this exquiſite landſcape, it is neceſſary to land and walk to an opening in the grove, from whence it is ſeen in ſurprizing beauty.

You look up a tremendous wall of rock, perpendicular to the top, ſcattered with wood, that ſeems to hang in the air; a large ſtream ruſhes out of a cliff near the top, and falls, in the moſt broken and romantic manner, ſeveral hundred feet: It falls in one guſh for ſeveral hundred yards; a projecting part of the rock breaks it then into three ſtreams, which are preſently quite loſt behinds hanging woods. Lower down, you again catch it in a ſingle bright ſheet, among the ſurrounding dark wood, in the moſt elegantly pictureſque manner that fancy can conceive. Loſing itſelf again behind the intervening trees, it breaks to the view in various ſcattered ſtreams, half ſeen, glittering in the ſun beans, among the branches of the trees, in the moſt bewitching colours of nature's clear obſcure. Lower ſtill, you again catch it united

in

in one bright ruſhing fall, in the bark boſom of a fine hollow wood, which finiſhes the ſcene. The ſurrounding hills, rocks, and ſcattered pendent woods, are all romantic and ſublime, and tend nobly to ſet off this moſt exquiſite touch of rural elegance. In Plate I. is the ſketch I took of it.

Following the coaſt you ſail round a ſweet little iſland, a clump of wood growing out of the lake; but it is joined to the main land when the water is very low. From hence, purſuing the voyage, you come into the narrow part of the lake, and have a full view of moſt romantic terrible craggy rocks, incloſing a moſt grand and beautiful caſcade: It is a view that muſt aſtoniſh the ſpectator. You look up to two dreadful pointed rocks, of a vaſt height, which almoſt hang over your head, partly ſcattered with ſhrubby wood, in the wildeſt taſte of nature. Between them is a dreadful precipice of broken craggy rock, over which a raging torrent foams down in one vaſt ſheet of water, ſeveral yards wide, juſt broken into ebullitions by the points of the rocks unſeen. At another time I ſaw it, when the craggy rock appeared, and the ſtream was broken by it into ſeveral guſhing torrents, which ſeemed to iſſue diſtinctly from clefts in the rock in the moſt pictureſque manner imaginable: The water is loſt in one ſpot, caught again in another; foaming out of this cleft with ruſhing impetuoſity, and trickling down that with the moſt pleaſing elegance. Nothing can be fancied more grand, more beautiful, or romantic.

The ſketch in Plate II. will give you but an imperfect idea of it.

Taking a winding walk through the wood, it leads down to a rapid ſtream which you croſs, and preſently come to a new and moſt delicious ſcene. To the right you catch a ſide view of the fall juſt deſcribed, in a new direction, moſt beautifully emboſomed in rock and hanging wood. Full in front you look upon another caſcade, which ruſhes out as it were from

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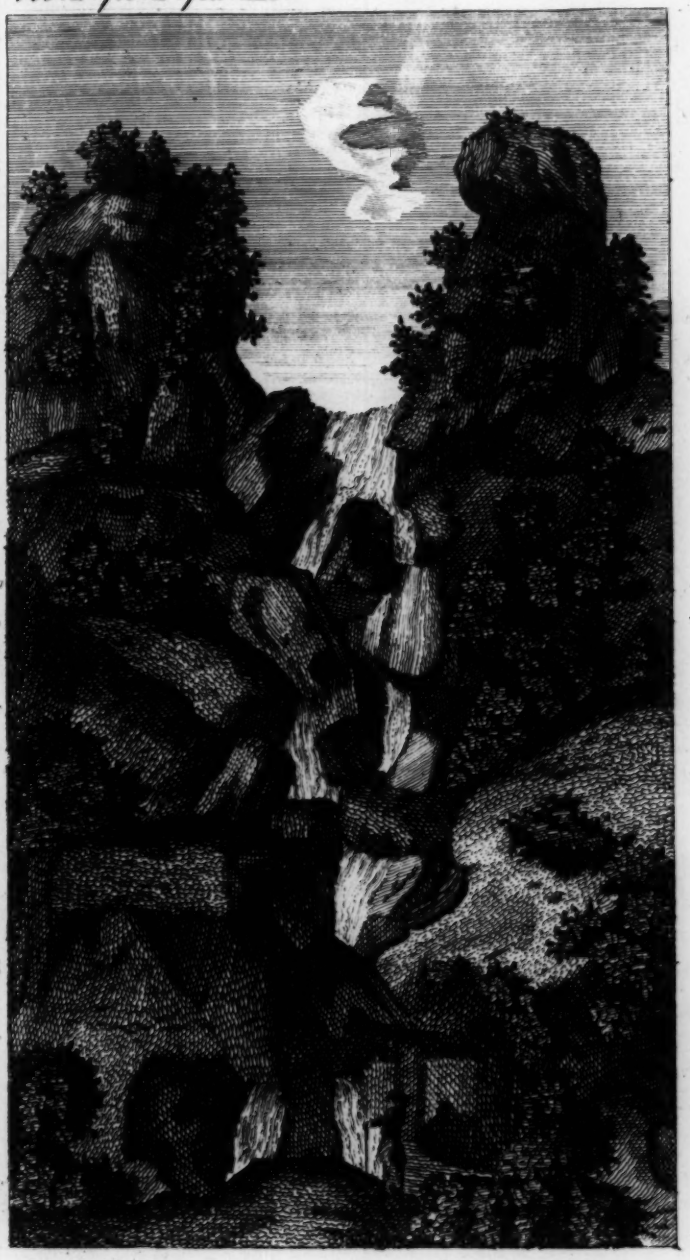

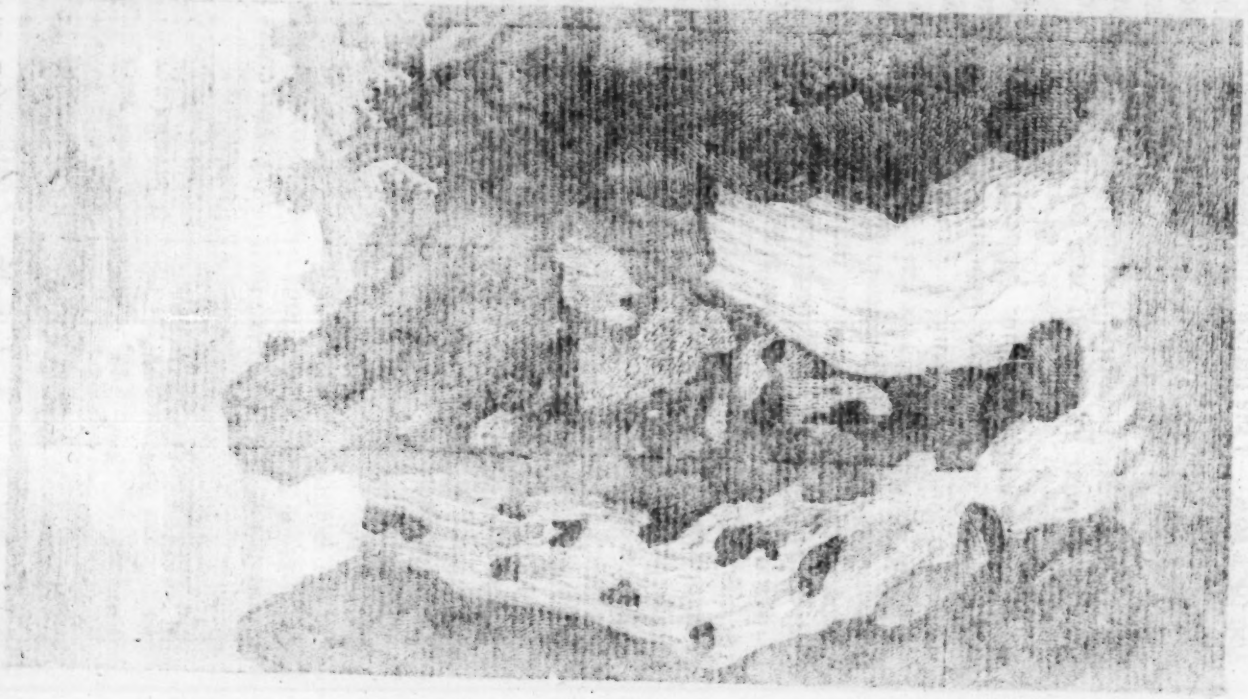

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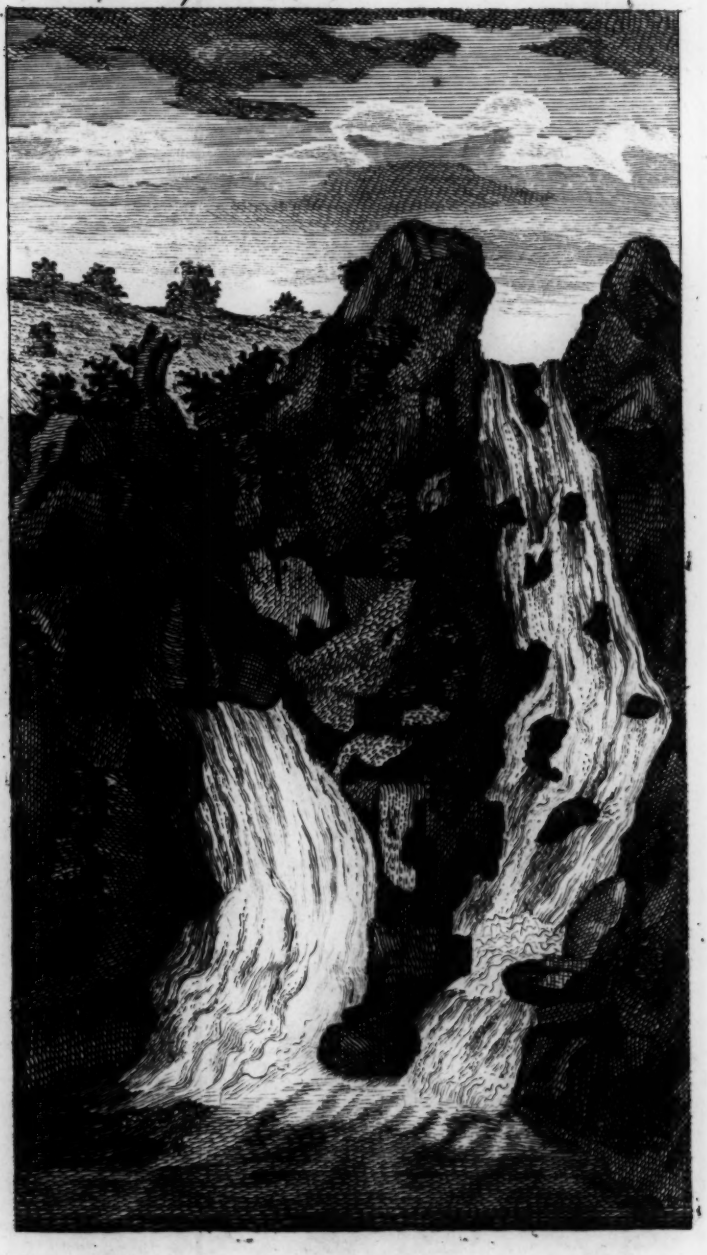

from the rotten ſtump of an old tree, and falling down an irregular ſurface of rock, it breaks into larger and more ſheets, ſome full, others thin and trickling, a moſt ſweet variety: After this, it breaks again, and falls into the ſtream in freſh beauty, elegantly romantic. Plate III. is the ſketch I took.

Following the ſhore into fleet water, you come into a region of moſt ſtupendous rocks, broken and irregularly pointed, in the moſt abrupt and wild manner imaginable, with monſtrous fragments, large as a houſe, that have tumbled from their heads—Dreadful in the idea!

Purſuing the water to its point, you come into a new and moſt glorious amphitheatre of rocks and mountains; on one ſide, craggy, br ken, and wildly irregular; and on the other, a vaſt range of mountain ſide. The hollow magnificently great.

Going up the river to *Grange* bridge, under *Grange Crag* the lake is loſt: the proſpect new and terrible; a whole ſweep of rocks, crags, mountains, and dreadful chaſms.

Leaving the boat, and walking up to the village, you gain a view of a cone like rocky woody hill, riſing in the midſt of a hollow of mountains, moſt nobly romantic. From hence following the road to the lake under *Brandelow Hill*, you have the nobleſt view of rocks and hills in the world. *Grange Crag* and *Crown Head* appear in full view, ſurrounded by an immenſe wall of rock and mountain. The effect aſtoniſhingly great.

Taking boat again you row round a prodigious fine promontory, beautifully wooded; and upon turning it, you tack about round a moſt exquiſite little iſland in the bay; and if the water is very high, there are two more very fine woody iſlands, around which you may row: This little archipelago will entertain a perſon of the leaſt taſte. Nor is the view of the lake's environs unworthy of admiration The crags and clifts to the right are tremendous: *Skiddow* fronts you in the

the ſublimeſt ſtile; *Saddle-back* on one ſide of him rears his head in the boldeſt manner: To the left you look upon an exceeding fine hanging wood, beautifully ſpread over a waving hill.

Advancing with the coaſt you next land at the lead mines, which, if you have a taſte for grotto work, will entertain, as a boat may be loaded with ſpar of various glittering and beautiful kinds. Here alſo are two curioſities of an uncommon kind, *viz.* two ſalt ſprings.

Sailing along the ſhore it leads you under a noble hill moſt beautifully ſpread with wood; it is covered thick with young timber trees, which grow in the moſt pictureſque manner down to the very water's edge. You next enter a little bay, and look upon a moſt elegant ſmall round hill, covered with wood, inimitably beautiful. This you alſo coaſt, nor can any thing be more truly exquiſite than theſe two ſlopes of wood, with beautiful incloſures between them, contraſting the ſublimity of the rocks and mountains in the nobleſt ſtile. Nor ſhould you here forget to remark three or four incloſures on the other ſide of the lake, down to the water's edge, under *Achneſs Fell*; they are exquiſite.

Sailing by ſome very beautiful graſs incloſures you catch a white houſe romantically ſituated; and then ſkirting more incloſures, turn round a ſmall but moſt exquiſite promontory, with a ſweet clump of trees on it: This leads into a very fine land-locked bay, which commands a beautiful ſloping hanging wood; the ſcene enlivened by a white houſe quite in the ſpot of taſte. From hence you look over the lake upon *Caſtle Head Crag*, a fine round of rocky wood riſing out of a vale and backed with waving incloſures.

The ſhore from hence is moſt beautifully indented and irregular, running up among little hills finely fringed with wood: From hence you wind in and out of ſeveral bays and creeks, commanding very pictureſque views of the land, and around a moſt noble hill

hill of ſhrubby wood covered to the very top. From hence around the town the ſhore is flat.

Your next view of *Keſwick* muſt be from land, by walking up the vaſt rocks and crags firſt deſcribed. This is a journey which will terrify thoſe who have been only uſed to flat countries. The walk to the higheſt rock is a mile and a half up, and almoſt perpendicular, horribly rugged, and tremendous; it is rather a climbing crawl than a walk. The path croſſed the ſtream, which forms the firſt mentioned caſcade, in the midſt of dreadful clifts and romantic hollows: The torrent roars beneath you, in ſome places ſeen, in others hid by rock and wood.

From hence you climb through a ſlope of underwood to the edge of a precipice, from which you look down upon the lake and iſlands in a moſt beautiful manner; for coming at once upon them, after leaving a thick dark wood, the emotions of ſurprize and admiration are very great.

Following the path, (if it may be ſo called) you paſs many romantic ſpots, and come to a projection of the hill, from which you look down, not only upon the lake as before, but alſo upon a ſemi-circular vale of incloſures, of a moſt beautiful verdure, which gives a fine curve into the lake: One of the fields is ſcattered over with trees, which from hence have the moſt truly picturesque effect imaginable.

Advancing further yet, you come to the head of *Craſtig-fall*, which is a vaſt opening among theſe immenſe rocky mountains, that lets in between them a view acroſs the lake, catching two of the iſlands, *&c.* in a moſt beautiful manner; nor can any thing be more horribly romantic than the adjoining ground where you command this ſweet view.

At laſt we gained the top of the crag, and from it the proſpect is truly noble; you look down upon the lake, ſpotted with its iſlands, ſo far below as to appear in another region; the lower hills and rocks riſe moſt picturesquely to the view. To the right you look

look down upon a beautiful vale of cultivated incloſures, whoſe verdure is painting itſelf. The town preſents its ſcattered houſes, among woods and ſpreading trees: Above it riſes *Skiddow*, cloud-topped in the moſt ſublime magnitude.

Deſcending to the town, we took our leave of this enchanting region of landſcape, by ſcaling the formidable walls of *Skiddow* himſelf: It is five miles to the top, but the immenſity of the view fully repays for the labour of gaining it. You look upon the lake, which here appears no more than a little baſon, and its iſlands but as ſo many ſpots; it is ſurrounded by a prodigious range of rocks and mountains, wild as the waves, ſublimely romantic. Theſe dreadful ſweeps, the ſport of nature in the moſt violent of her moments, are the moſt ſtriking objects ſeen from *Skiddow*; but in mere extent the view is prodigious. You ſee the hills in *Scotland* plainly; you view a fine reach of ſea; command the *Iſle* of *Man*, and ſee part of an object, which I take to be an highland in *Ireland*; beſides prodigious tracts of adjacent country.

Keſwick, upon the whole, contains a variety that cannot fail of aſtoniſhing the ſpectator: the lake, the iſlands, the hanging woods, the waving incloſures, and the caſcades are all moſt ſuperlatively elegant and beautiful; while the rocks, clifts, crags, and mountains are equally terrifying and ſublime. There cannot be a finer contraſt. But it is much to be regretted that art does not yield more of her aſſiſtance, not in decoration, for the lake wants it not, but in enabling the ſpectator to command, with greater eaſe, the luxuriant beauties and ſtriking views which to ſo many travellers are hitherto quite unknown: There are a vaſt many edges of precipices, bold projections of rock, pendent clifts, and wild romantic ſpots, which command the moſt delicious ſcenes, but which cannot be reached without the moſt perilous difficulty: To ſuch points of view, winding paths ſhould be cut in the rock, and reſting-places made for the weary traveller:

traveller: Many of theſe paths muſt neceſſarily lead through the hanging woods, openings might be made to let in views of the lake, where the objects, ſuch as iſlands. &c. were peculiarly beautiful At the bottoms of the rocks alſo, ſomething of the ſame nature ſhould be executed for the better viewing the romantic caſcades, which might be exhibited with a little art, in a variety that would aſtoniſh.

It is amuſing to think of the pains and expence with which the environs of ſeveral ſeats have been ornamented, to produce pretty ſcenes it is true, but how very far ſhort of the wonders that might here be held up to the eye in all the rich luxuriance of nature's painting. What are the effects of a *Louis*'s magnificence to the ſportive play of nature in the vale of *Keſwick!* How trifling the labours of art to the mere pranks of nature!

Returning to *Penrith*, our next expedition was to *Hulls Water*, a very fine lake, about ſix miles from that town: The approach to it is very beautiful; the moſt advantageous way of ſeeing it is to take the road up *Dunmanlot Hill*, for you riſe up a very beautiful planted hill, and ſee nothing of the water till you gain the ſummit, when the view is uncommonly beautiful. You look down at once upon the ſheet of the lake, which appears prodigiouſly fine. It is an oblong water, cut by iſlands, three miles long and a mile and half broad in ſome places, in others a mile. It is incloſed within an amphitheatre of hills in front at the end of the reach, projecting down to the water edge, but retiring from it on each ſide, ſo as to leave a ſpace of cultivated incloſures between the feet and the lake. The hedges that divide them are ſcattered with trees; and the fields of both graſs and corn, waving in beautiful ſlopes from the water, interſected by hedges, in the moſt pictureſque manner.

Upon the right a bold ſwelling hill of turf riſes with a fine air of grandeur. Another view from off this hill is on to a mountain's ſide, which preſents to the

eye

eye a ſwelling ſlope of turf, and over it *Saddle-back* riſes in a noble ſtile.

Another view from this hill is down upon a beautiful vale of cultivated incloſures; Mr. *Haſſel*'s houſe at *Delmaine*, in one part, almoſt encompaſſed with a plantation: Here you likewiſe catch ſome meanders of the river, through the trees, and hear the roar of a water-fall. This hill is itſelf a very fine object, viewed every way, but the ſimplicity of its effect is deſtroyed, by being cut by a double ſtripe of *Scotch* firs acroſs it, which varies the colour of the verdure, and conſequently breaks the unity of the view.

Another point of view from which this part of the lake is ſeen to good advantage, is from off *Soulby Fell*: You look down upon the water, which ſpreads very finely to the view, bounded to the right by the hills, which riſe from the very water; at the other, by *Dunmanlot Hill*; in front, by a fine range of incloſures, riſing moſt beautifully to the view, and the water's edge ſhirted by trees, in a moſt pictureſque manner.

Directing your courſe under the lake, and landing at *Swarth Fell*, the next buſineſs ſhould be to mount its height. The lake winds at your feet like a noble river; the oppoſite banks beautiful incloſures, exquiſitely fringed with trees; and ſome little narrow ſlips, like promontories, jet into it in the moſt pictureſque effect imaginable; and at the ſame time you hear the noiſe of a water-fall beneath, but unſeen.

Taking boat again, and ſailing with the courſe of the lake, you turn with its bend, and come into a very fine ſheet of water, which appears like a lake of itſelf. It is under *Howtown* and *Hawling Fell*. The environs here are very ſtriking; cultivated incloſures on one ſide, crowned with the tops of hills; and on the other, a woody craggy hill down to the very water's edge. The effect fine.

Next you double *Hawling Fell*, and come again into a new ſheet of water, under *Martindale Fell*, which is a prodigious fine hill, of a bold, abrupt form; and

and between that and *Howling Fell*, a little riſing wave of cultivated incloſures, ſkirted with trees; the fields of the fineſt verdure, and the picturesque appearance of the whole moſt exquiſitely pleaſing. It is a moſt delicious ſpot, within an amphitheatre of rugged hills.

Following the bend of the water under *New Crag*, the views are more romantic than in any part hitherto ſeen. *New Crag*, to the right, rears a bold, abrupt head, in a ſtile truly ſublime; and paſſing it a little, the oppoſite ſhore is very noble. *Martindale Fell* riſes ſteep from the water's edge, and preſents a bold wall of mountain; really glorious. In front, the hills are craggy, broken, and irregular in ſhape (not height) like thoſe of *Keſwick:* They project ſo boldly to the very water, that the outlet or wind of the water is ſhut by them from the eye. It ſeems incloſed by a ſhore of ſteep hills and crags. From hence to the end of the lake, which there is ſprinkled by three or four ſmall iſlands, the views are in the ſame ſtile, very wild and romantic. It is an exceedingly pleaſing entertainment to ſail about this fine lake, which is nineteen miles round, and preſents to the eye ſeveral very fine ſheets of water; and abounds, for another amuſement, with noble fiſh; pike to 30*lb.* perch to 6*lb.* trout to 6 *lb.* beſides many other ſorts. The water is of a moſt beautiful colour, and admirably tranſparent.

Returning to *Penrith*, I took the road to *Shapp*, by *Lowther Hall*, the ſeat of Sir *James Lowther*, Bart. The houſe (it was burnt down not many years ago) is not ſo ſtriking as the plantations, which are deſigned with much taſte, and of very great extent. Near the road is the new town of *Lowther*, where Sir *James* is building a town to conſiſt of 300 houſes, for the uſe of ſuch of his domeſticks, and other people, as are married: And it is highly worthy of remark, that he not only encourages all to marry, but keeps them in his ſervice *after* they have families: Every couple finds a reſidence here, and an annual allowance of coals.

This is a moſt incomparable method of advancing population, and conſequently the good of the nation at large; nor can it be too much imitated. Above forty houſes are already erected.

The ſoil about *Shapp* is generally a loam upon a lime-ſtone, in ſome places thin, but in others deep; letts from 1*s*. to 20*s*. an acre; but the incloſures generally 20*s*.

Farms from 40*l*. to 400*l*. a year.

Their courſe,

1. Break up, and ſow oats
2. Oats
3. Barley
4. Oats, and then down again.

This is execrable.

They plough but once for barley, ſow two buſhels, and gain about twenty. For oats they give three or four ploughings, ſow ſeven buſhels and an half, and gain thirty-five in return.

Good graſs letts at 20*s*. and 25*s*. an acre; it is uſed both for dairying and fatting, but chiefly the latter: An acre they reckon will keep a cow through the ſummer, or ſix ſheep. They manure it as much as they can, but that is no great matter. Their breed of cattle is the long-horned, and have fatted them ſo high as 130 ſtone, but very uncommon; 60 to 80 common.

The product of a cow they reckon at 5*l* and four gallons the common quantity of milk *per* day: As to ſwine, they keep none upon account of cows: A farmer without a dairy has as many as thoſe who keep the largeſt, which would ſurprize a *Suffolk* or an *Eſſex* man. The winter food of the cows is hay, in general, but ſome ſtraw. Their calves for the butcher ſuck from one to ten weeks; for rearing, not at all, but are all brought up by hand with milk, for twenty weeks. A cow, in winter, generally eats an acre and an half of hay, and they are kept in houſe. The ſummer joiſt from 14*s*. to 40*s*.

Their

Their flocks of ſheep riſe from 5 to 1500. They ſell no lambs, but rear them for wethers, at from 7*s.* to 14*s.* The profit, *per* head, of the flock, about 5*s.* Keep them, both winter and ſpring, on the commons: The weight of the fleeces 3 or 4*lb.* at 3*d.*

They uſe two or three horſes in a plough, and do an acre a day. The ſummer joiſt of a horſe varies from 10*s.* to 50*s.* The price of ploughing, from 5*s.* to 6*s.* an acre: They cut about five inches deep.

They know nothing of cutting ſtraw for chaff.

They reckon 5 or 6 *col.* neceſſary to ſtock a farm of 100*l.* a year: They are, in general, grazing ones.

Land ſells from 30 to 35 years purchaſe: There are many freeholds of from 100 to 300*l.* a year.

Tythes both gathered and compounded.

Poor rates from 6*d.* to 1*s.* in the pound. The employment ſpinning wool, for *Kendal*. All drink tea.

The farmers carry their corn ten miles.

The following particulars of farms will ſhew the general œconomy.

200 acres of graſs
£. 140 rent
2 horſes
60 fatting beaſts
10 cows

Another, 100 acres in all
15 arable
85 graſs
£. 100 rent
2 horſes
20 cows

Another, 120 acres in all
20 arable
100 graſs
£. 75 rent
3 horſes
13 cows
8 fatting beaſts
20 young cattle
700 ſheep (common right)
2 men
1 maid.

15 fatting beaſts
15 young cattle
200 ſheep (common right)
1 man
1 maid.

10 young cattle
500 ſheep (common right)
1 man
1 maid
1 boy.

Another,	70 acres in all	2	fatting beaſts
	5 arable	8	young cattle
	65 graſs	200	ſheep (common right)
	£. 63 rent	1	boy
	2 horſes	1	maid.
	10 cows		
Another,	50 acres, all graſs	10	young cattle
	£. 40 rent	80	ſheep (common right)
	1 horſe	1	boy.
	6 fatting beaſts		
	8 cows		

LABOUR.

In harveſt, 8*d.* to 10*d.* and board.
In hay time, 1*s.* to 1*s.* 6*d.* and ditto.
In winter, 6*d.* and ditto.
Mowing, 3*s.*
Head man's wages, 9*l.*
Next ditto, 7*l.* 10*s.*
Boy of ten or twelve years, 50*s.*
Maids, 4*l.* to 5*l.*
Women *per* day in harveſt, 6*d.* and board.
In hay time, ditto.

IMPLEMENTS.

No waggons.	No rollers.
A cart, 5*l.*	A ſcythe, 2*s.* 6*d.* to 4*s.*
A plough, 30*s.*	A ſpade, 2*s.* 6*d.*
A harrow, 7*s.* 6*d.*	Shoeing, 2*s.*

PROVISIONS, &c.

Bread—Oat.
Cheeſe, — 2½*d.*
Butter, — 7½*d.* 20 *oz.*
Beef, — 2*d.* to 2½*d.*
Mutton, — 2*d.* to 2½*d.*
Veal, ditto. Pork,

Pork, — 4*d*. to 4½*d*.
Bacon, — 7*d*.
Milk, — ½*d*. *per* pint.
Potatoes, — 2*d*. a peck.
Candles, — 7*d*.
Soap, — 6*d*
Labourer's houſe-rent, 20*s*. to 40*s*.
——— firing, 20*s*. to 30*s*.

BUILDING.

Oak, 1*s*. 4*d*.
Aſh, 1*s*. 2*d*.
Carpenter, 1*s*. a day, and board.
Slate, 55*s*. a rood, brought in.
——— laying on and lime, 15*s*.
Stone walling, 7*d*. a yard workmanſhip; and getting, 2*d*.

I took the opportunity of being at *Shapp* to ride to *Haws Water*, a lake ſome miles to the weſtward. The road thither leads for ſome diſtance along the ſide of a hill, which commands an exceeding fine view of *Ponton Vale* to the left. It is ſeveral miles in length, of an oblong figure, all cut into incloſures of a charming verdure, and ſcattered in the moſt picturesque manner with villages, clumps of wood, houſes, bridges, trees, &c. A fine river takes the moſt beautiful ſerpentine courſe in the world through it; The oppoſite bank is a large ridge of mountain. It is a ſweet landſcape, which brings to ones imagination the idea of an *Arcadian* paradiſe.

The approach to the lake is very picturesque: You paſs between two high ridges of mountain, the banks finely ſpread with incloſures; upon the right two ſmall beautiful hills, one of them covered with wood; they are moſt pleaſingly elegant. The lake is a ſmall one, about three miles long, half a mile over in ſome places, and a quarter in others; almoſt divided in the middle by a promontory of incloſures, joining on-

ly by a ſtreight; ſo that it conſiſts of two ſheets of water. The upper end of it is fine, quite incloſed with bold ſteep craggy rocks and mountains; and in the center of the end a few little incloſures at their feet, waving upwards in a very beautiful manner. The ſouth ſide of the lake is a noble ridge of mountain, very bold and prominent down to the waters edge. They bulge out in the center in a fine bold pendent broad head that is venerably magnificent: And the view of the firſt ſheet of the lake loſing itſelf into the ſecond among hills, rocks, woods, &c. is pictureſque. The oppoſite ſhore conſiſts of incloſures, riſing one above another, and crowned with craggy rocks.

Twelve of the fifteen miles from *Shapp* to *Kendal* are a continued chain of mountainous moors, totally uncultivated; one dreary proſpect, that makes one melancholy to behold; for the ſoil itſelf is highly capable of cultivation and of profitable uſes; much of it is of a good depth; and the ſpontaneous growth proves that the nature of the land is equal to many valuable uſes.

After croſſing this dreary track, the firſt appearance of good country is moſt exquiſitely fine; about three miles from *Kendal* you at once look down from off this deſolate country upon one of the fineſt landſcapes in the world; a noble range of fertile incloſures, richly enameled with moſt beautiful verdure: And coming to the brow of the hill have a moſt elegantly pictureſque view of a variegated track of waving incloſures, ſpreading over hills, and hanging to the eye in the moſt pictureſque and pleaſing manner that fancy can conceive. Three hills in particular are overlooked, cut into incloſures in a charming ſtile, of themſelves forming a moſt elegant landſcape, and worthy the imitation of thoſe who would give the embelliſhments of art to the ſimplicity of nature.

Kendal

Kendal is a well built and well paved town, pleaſantly ſituated, in the midſt of the beautiful country juſt deſcribed. It is famous for ſeveral manufactories; the chief of which is that of knit ſtockings, employing near 5000 hands by computation. They reckon 120 wool-combers, each employing five ſpinners, and each ſpinner four or five knitters; if four, the amount is 2400; this is the full work, ſuppoſing them all to be induſtrious; but the number is probably much greater. They make 550 dozen a week the year round, or 28,600 dozen annually: The price *per* pair is from 22*d.* to 6*s.* but in general from 22*d.* to 4*s.* ſome boys at 10*d.* If we ſuppoſe the average 3*s.* or 36*s.* a dozen, the amount is 51,480*l.*

The wool they uſe is chiefly *Leiceſterſhire*, *Warwickſhire*, and *Durham:* They generally mix *Leiceſterſhire* and *Durham* together. The price 8*d.* 9*d.* and 10*d.* *per lb.* They ſend all the manufacture to *London* by land carriage, which is ſaid to be the longeſt, for broad wheel waggons, of any ſtage in *England.* The earnings of the manufacturers in this branch are as follow:

		s.	*d.*
The combers, *per* week,	—	10	6
The ſpinners, women,	—	3	0
Ditto, children of ten or twelve years,		2	0
The knitters,	——	2	6
Ditto, children of ten or twelve years,		2	0

All the work-people may have conſtant employment if they pleaſe.

During the late war buſineſs was exceedingly briſk, very dull after the peace, but now as good as ever known.

The making of cottons is likewiſe a conſiderable manufacture in this town. They are called *Kendal* cottons, chiefly for exportation, or ſailors jackets, about 10*d* or 1*s.* a yard, made of *Weſtmoreland* wool, which is very coarſe, ſelling only at 3*d.* or 4*d.* *per lb.* This branch employs 3 or 400 hands, particularly ſhearmen, weavers, and ſpinners.

			s.	d.
The ſhearmen earn *per* week,	—		10	6
The weavers, (chiefly women,)		—	4	3
The ſpinners,	—	—	3	3

All have conſtant employment. During the war this manufacture was more briſk than ever, very dull after the peace, and has continued but indifferent ever ſince.

Their third branch of manufacture is the linſey woolſey, made chiefly for home conſumption, of *Weſtmorland*, *Lancaſhire*, and *Cumberland* wool; the hands are chiefly weavers and ſpinners. The firſt earn 9*s.* or 10*s.* a week; the ſecond (women) 4*s.* 6*d.* or 5*s.*

The farmers and labourers ſpin their own wool, and bring the yarn to market every week: There are about 500 weavers employed, and from 1000 to 1300 ſpinners in town and country. The buſineſs during the war was better than it has been ſince, but is now better than after the peace.

Their fourth manufacture is the tannery, which employs near 100 hands, who earn from 7*s.* to 7*s.* 6*d.* a week. They tan many hides from *Ireland*.

They have likewiſe a ſmall manufactory of cards, for carding cloth. Another alſo of ſilk: They receive the waſte ſilk from *London*, boil it in ſoap, which they call ſcowering, then it is combed by women (there are about 30 or 40 of them) and ſpun, which article employs about 100 hands; after this it is doubled and dreſſed, and ſent back again to *London*. This branch is upon the increaſe.

PROVISIONS, *&c.*

Bread—oatmeal baked in thin hard cakes, called clap-bread, coſts 1*d per lb.*

Cheeſe, $3\frac{1}{2}d.$

Butter, $6\frac{1}{2}d.$ 16 *oz.*

Mutton, 2*d.* to $2\frac{1}{2}d.$

Beef,

Beef, $2\frac{1}{2}d.$ to $3d.$
Veal, $2\frac{1}{2}d.$
Pork, $4\frac{1}{2}d.$
Bacon, $6\frac{1}{2}d.$
Milk, $\frac{1}{2}d.$ a pint.
Potatoes, $10d.$ four gallons.
Poor's houſe rent, $30s.$
——— firing, $45s$ to $50s.$

Kendal is a very plentiful and cheap place; fat ſtubble geeſe are ſold at $1s.$ $4d.$ each*; fat fowls at $1s.$ a couple; fat ducks the ſame price; wild fowl and game in great plenty; woodcocks often at $2d.$ a piece; partridges are ſold common in the market and very cheap: Fiſh in great plenty; trout oftentimes at a penny a pound, beſides many other ſorts. It is a neat well built town.

From hence we viewed the famous lake called *Winander Meer*, ten miles weſt of *Kendal*; by much the longeſt water of the kind in *England*. It is fifteen miles long, and from two miles to half a mile broad. It gives gentle bends, ſo as to preſent to the eye ſeveral noble ſheets of water; and is in many places beautifully ſcattered with iſlands: The ſhores are nobly varied, conſiſting in ſome places of fine ridges of hills, in others of craggy rocks; in ſome of waving incloſures, and in others of the fineſt hanging woods; ſeveral villages and one market town are ſituated on its banks, and a ferry croſſes it to another; there is ſome buſineſs carried on upon it, ſo that it is not uncommon to ſee barges with ſpreading ſails: All theſe circumſtances give it a very chearful appearance, at the ſame time that they add to its beauty.

I would adviſe thoſe who view this lake, not to

* This is ſo cheap, that a Living I heard of is not a very fat one, $4l.$ a year, a pair of *wooden ſhoes*, and a *Gooſe-Gate*. Alas, poor Rector!

All the poor in this country wear wooden ſhoes.

A *Gooſe-Gate* is the right of keeping a gooſe on the common.

take

take the common road down to the village of *Bonus**, where the boats are kept, but (for reaſons which I ſhall hereafter add) to go thither round almoſt by the ferry. The landlord at the inn at that village keeps a boat, and can always provide rowers for any company that comes; the extreme beauty of the lake induced me to explore every part of it with attention; but as I have already troubled you with ſeveral recitals of theſe water expeditions, I ſhall only mention a few of the principal points of view, and to which I ſhould particularly recommend any traveller to row if he had not time to view the whole lake; but no ſcheme of this ſort can be more amuſing than two or three days ſpent here in rowing, ſailing, fiſhing, and wild duck ſhooting, all which are here to be had in great perfection; and I ſhould add, that the end of *May*, or the beginning of *June*, is the proper time for ſuch an expedition.

Taking boat at the village, you row firſt to *The Iſland*, ſo called by way of pre-eminence, being by much the largeſt in the lake; it contains between thirty and forty acres of land, and I cannot but think it the ſweeteſt ſpot, and full of the greateſt capabilities, of any forty acres in the king's dominions. The view from the ſouth end is very fine; the lake preſents a moſt noble ſheet of water ſtretching away for ſeveral miles, and bounded in front by diſtant mountains; the ſhoars beautifully indented by promontories covered with wood, and jetting into the water in the moſt pictureſque ſtile imaginable, particularly the ferry points on both ſides; it is broke by *Berkſhire Iſland*, an elegant ſpot, finely wooded in one part, and by *Crow Iſland*, almoſt covered with wood, in another, and juſt hides a houſe on the main land.

The eaſtern ſhore is ſpread forth with the moſt beautiful variety. In ſome places waving incloſures

* I am ſenſible throughout this Tour of mis-ſpelt names; but many of the places I mention are not to be found in maps, I am obliged, therefore, to write from the ear.

of

of corn and graſs riſe one above another, and preſent to the eye a ſcenery beyond the brighteſt ideas of painting itſelf. In others ſhrubby ſpots and pendent woods hang down to the very water's edge: In ſome places theſe woods are broke by a few ſmall graſs inclоſures of the ſweeteſt verdure; and in others run around large circuits of them, and, riſing to the higher grounds, loſe themſelves in the wilds above. Here you ſee ſlips of land running into the lake, and covered with trees which ſeem to riſe from the water: There, a boldly indented ſhore, ſwelling into fine bays, and ſkirted with ſpreading trees, an edging as elegant as ever fancied by *Claud* himſelf. The village is caught among ſome ſcattered trees, in a ſweet ſituation, on the bank of a bay, formed by a promontory of wood, the back ground a ſweep of incloſures, riſing one above another.

Following this line of ſhore towards the north, you command *Bannerig* and *Oareſt Head*, two hills all cut into incloſures to the very top; to the north you look upon a noble range of irregular mountains, which contraſt finely with the other more beautiful ſhores. The weſtern is a fine ſweep of craggy rocks, here and there fringed with wood. Advancing to the very fartheſt point of land, theſe objects are varied, and new ones appear that are truly beautiful. The *Lancaſhire* ferry point and the woody iſland join, and ſeem one prodigious fine promontory of wood; the ferry houſe ſeen among the trees in a pictureſque manner. They form the boundary in front of a fine bay, walled in to the right by a noble rocky cliff; and in the middle of it a ſweet little woody iſland. Over the low part of the promontory the diſtant hills are ſeen finely. The ſhore to the left, here, appears peculiarly beautiful, for half a dozen incloſures of the moſt elegant verdure riſe from the water's edge among ſloping woods, and offer a variety of colours of the moſt pictureſque hues. From hence likewiſe you look back on *Bannerig*, a fine cultivated

tivated hill, riſing from the lake in a moſt pleaſing manner.

Moving from this end of the iſland along the weſt coaſt of it, the view is extremely pictureſque. The ſtreight is broke by three iſlands, two of them thickly covered with wood, the other a long ſlip, ſcattered with tall upright trees, through the ſtems of which, and under the thick ſhade of their ſpreading tops, the water is ſeen glittering with the ſun beams; a landſcape truly delicious

From the north end of this iſle, ſo happy in the beauties of proſpect, the views are various, and ſome of them exquiſite: Looking towards the ſouth, you command a prodigious fine view of the lake, ſpreading to the right and left behind promontories, one beyond another, in a glorioufly irregular ſheet of water, encircled by an amphitheatre of hills, in the nobleſt ſtile. To the north you look upon another ſheet, different from the firſt: It is broke by a cluſter of four ſmall but beautiful iſlands.

Full in front you look upon a noble ſweep of mountains, and on one, in particular, that is very curious; It is of a circular form, riſing out of a vaſt hollow among the reſt, and is overtopped by them; romantic in the higheſt degree. A little to the right of it, you command one of the moſt noble of cultivated hills. It is interſected by hedges, trees, and ſcattered woods, into a vaſt ſweep of incloſures, which reach the very top: A view beautifully magnificent. More to the right, the eye is delighted with the moſt elegant waves of cultivated incloſures, that can be conceived, riſing to the view in the moſt pictureſque varieties of landſcape, and forcing admiration from the moſt taſteleſs of mortals. To the left, a vaſt range of rocks and mountains form the boundary of the lake, and project into it in the boldeſt manner.

Sailing from this noble iſland to that of *Berkſhire*, a little hilly wood of ſcattered trees, the views are various, rich, and truly pictureſque: From the north

ſide

ſide of it you look upon a fine ſheet of water, to the *Great Iſland*, &c and bounded by a noble variety of ſhore. To the left, and in front, high ridges of hills and mountains: To the right, moſt beautiful waving hills of incloſures; ſome juſt riſing enough to ſhew their hedges diſtinctly, and others hanging full to the eye; beneath, a boundary of rough hills, and wild, uncultivated ground. To the left you ſee *Crow Iſland*, which appears fine; and the ferry-houſe, beneath a clump of trees, on the point of a promontory, jetting into the water, with an effect really exquiſite. To the eaſt, you look againſt a very fine bank of incloſures, moſt elegantly ſcattered with trees. To the ſouth, the lake is loſt between two promontories, projecting into it againſt each other, and leaving a fine ſtrait between: One is high and rocky; the other, a line of waving wood and incloſures, and catch beyond it the diſtant hills, which complete the view. The weſtern proſpect is on to a range of craggy hills; ſome moſt beautifully fringed with hanging woods, and cut in the middle by a cultivated wave of incloſures, broken by woods, hedges, clumps, and ſcattered trees, and riſing one above another, in the moſt pictureſque irregularity that fancy can ſuppoſe. At the top, a farm-houſe, under a clump of trees; the whole forming a bird's eye landſcape of the moſt delicious kind. Nor can any thing be finer than the hanging woods on this ſide of the lake, broken by graſs incloſures of a beautiful verdure.

Sailing acroſs the lake from *Berkſhire* to the ſhore under theſe incloſures, which are called *Round Table*, nothing in nature can be more exquiſite than the view, as you move, of a fine, long, graſs incloſure, at the water's edge, on the oppoſite ſhore, bounded by fine woods, except to the lake, edged with ſome ſpreading trees, through which the view of the graſs is truly pictureſque. Other waving ſlopes of incloſures, to the right, hang to the lake, under the ſhade of a rough, wild hill, and down to a ſkirting of wood, on

the

the water's edge, in the fineſt manner. Behind, the rocky cliff of *Fourneſs Fells*, has a noble appearance, crowned with a ſweep of wood.

Sailing under the weſtern ſhore, you command moſt beautiful landſcapes on the oppoſite one, conſiſting of the fineſt banks of cultivated incloſures, ſcattered with trees, clumps of wood, farm houſes, &c. and hanging to the water's edge in the moſt charming variety of ſituation: the fields in ſome places dipping in the very lake, in others thick woods riſing from the water; ſcenes which call for the pencil of a genius to catch graces from nature beyond the reach of the moſt elaborate art

Coming to *Ling Holm*, a ſmall rocky iſland, with a few trees on it, you have a double view of the two ſhores, finely contraſted, the weſtern ſpread with noble hanging woods; and the eaſtern one cultivated hills, waving to the eye in the fineſt inequalities of ſurface. The diſtant hills are alſo ſeen in a bold ſtile over the low incloſures of *Rawlinſon's Nab*, a promontory to the ſouth.

Landing on the point of that promontory the view is very noble, it commands two glorious ſheets of water, north and ſouth, each of four or five miles in length. That to the ſouth is bounded in general by rough woody hills, broken in a few ſpots by little incloſures: In front of the promontory, ſeveral very beautiful ones, cut by irregular ſweeps of wood, and hanging to the water's edge in the fineſt manner; the whole crowned with craggy tops of hills.

But the view to the north is much the moſt beautiful. *Berkſhire Iſland* breaks the ſheet of water in one place, and adds to the pictureſque variety of the ſcene without injuring its noble ſimplicity *Common Nab*, a promontory from the eaſt ſhore, projects into it in another place, elegantly variegated with wood and incloſures, waving over ſloping hills, and crowned with rough uncultivated ground. One incloſure in particular breaks into the wood in the moſt pictureſque manner

manner imaginable. This end of the lake is bounded by the noble hills of cultivated incloſures, already mentioned, which are viewed from hence to much advantage; they riſe from the ſhore with great magnificence. To the left a ridge of hanging woods, ſpread over wild romantic ground, that breaks into bold projections, abrupt and ſpirited, contraſting the elegance of the oppoſite beautiful ſhore in the fineſt manner.

Having thus viewed the moſt pleaſing objects from theſe points, let me next conduct you to a ſpot, where, at one glance, you command them all, in freſh ſituations, and all aſſuming a new appearance. For this purpoſe you return to the village, and taking the bye road to the turnpike, (not that by which you came) mount the hill without turning your head (if I was your guide I would conduct you behind a ſmall hill, that you might come at once upon the view) till you almoſt gain the top, when you will be ſtruck with aſtoniſhment at the proſpect ſpread forth at your feet, which, if not the moſt ſuperlative view that nature can exhibit, ſhe is more fertile in beauties than the reach of my imagination will allow me to conceive. It would be mere vanity to attempt to deſcribe a ſcene which beggars all deſcription, but that you may have ſome faint idea of the outlines of this wonderful picture, I will juſt give the particulars of which it conſiſts.

The point on which you ſtand is the ſide of a large ridge of hills that form the eaſtern boundaries of the lake, and the ſituation high enough to look *down* upon all the objects: A circumſtance of great importance, and which painting cannot imitate: In landſcapes, you are either on a level with the objects, or look *up* to them; the painter cannot give the declivity at your feet, which leſſens the objects as much in the perpendicular line as in his horizontal one.

You look down upon a noble winding valley of about twelve miles long, every where incloſed with grounds which riſe in a very bold and various manner;

in

in ſome places bulging into mountains, abrupt, wild, and uncultivated; in others, breaking into rocks, craggy, pointed, and irregular: Here, riſing into hills covered with the nobleſt woods, preſenting a gloomy brownneſs of ſhade, almoſt from the clouds to the reflection of the trees in the limpid water they ſo beautifully ſkirt: There, waving in various ſlopes of cultivated incloſures, adorned in the ſweeteſt manner with every object that can give variety to art, or elegance to nature; trees, woods, villages, houſes, farms, ſcattered with pictureſque confuſion, and waving to the eye in the moſt romantic landſcapes that nature can exhibit.

This valley, ſo beautifully incloſed, is floated by the lake, which ſpreads forth to the right and left in one vaſt but irregular expanſe of tranſparent water. A more noble object can hardly be imagined. Its immediate ſhoar is traced in every variety of line that fancy can imagine, ſometimes contracting the lake into the appearance of a noble winding river; at others retiring from it, and opening large ſwelling bays, as if for navies to anchor in; promontories ſpread with woods, or ſcattered with trees and incloſures, projecting into the water in the moſt pictureſque ſtile imaginable: rocky points breaking the ſhore, and rearing their bold heads above the water. In a word, a variety that amazes the beholder.

But what finiſhes the ſcene with an elegance too delicious to be imagined, is, this beautiful ſheet of water being dotted with no leſs than ten iſlands, diſtinctly commanded by the eye; all of the moſt bewitching beauty. The large one preſents a waving various line, which riſes from the water in the moſt pictureſque inequalities of ſurface: high land in one place, low in another; clumps of trees in this ſpot, ſcattered ones in that; adorned by a farm-houſe on the water's edge, and backed with a little wood, vyeing in ſimple elegance with *Boromean* palaces: Some of the ſmaller iſles riſing from the lake like little hills of wood, ſome only

ſcattered

ſcattered with trees, and others of graſs of the fineſt verdure; a more beautiful variety no where to be ſeen.

Strain your imagination to command the idea of ſo noble an expanſe of water thus gloriouſly environed; ſpotted with iſlands more beautiful than would have iſſued from the pencil of the happieſt painter. Picture the mountains rearing their majeſtic heads with native ſublimity; the vaſt rocks boldly projecting their terrible craggy points: And in the path of beauty, the variegated incloſures of the moſt charming verdure, hanging to the eye in every pictureſque form that can grace a landſcape, with the moſt exquiſite touches of *la belle nature:* If you raiſe your fancy to ſomething infinitely beyond this aſſemblage of rural elegancies, you may have a faint notion of the unexampled beauties of this raviſhing landſcape.

As I next reſume intelligence of huſbandry with the county of *Lancaſter*, I ſhall here conclude this letter.

I am, Sir, *&c.*

LETTER XIX.

RETURNING to *Kendal* I took the road to *Burton*, paſſing through a country various in reſpect of culture: Around that town, particularly about *Holme*, their ſoil is a light loam on a lime ſtone, with ſome of ſand; letts from 6*s*. 8*d*. to 3*l*. an acre; average about a guinea.

Farms from 20*l*. to 80*l*. a year.

As to their courſes they did not uſe to fallow at all, but now they are,

1. Fallow
2. Wheat
3. Barley
3. Oats and then let it lie to graze itſelf.

And,

1. Fallow
2. Wheat
3. Barley
4. Clover
5. Wheat
6 Oats
7. Barley
8. Oats, and then lie as before; for this theſe ſlovens deſerve to be hanged.

Of wheat they ſow two buſhels, about *Michaelmas*, and reap from twelve to fifteen. For barley they plough twice, ſow not quite three buſhels, about the end of *April* or the beginning of *May*, and reckon the average produce at twenty. They plough but once for oats, ſow four buſhels about the time of barley ſowing; the crop twenty-four. They cultivate ſome beans, plough once, ſow two buſhels in *March* or *April*, never hoe, but gain on an average twenty three buſhels. They plough once for peaſe, ſow a buſhel and half, and gain from none at all to fifteen buſhels. For rye they likewiſe give but one earth, ſow two buſhels; the crop from twelve to fifteen.

They

They ſtir twice for turneps, know nothing of hoeing; the average value *per* acre, 5*l.* or 6*l.* *Thomas Richardſon* has had crops that he would not take 12*l.* an acre for; but ſuch extravagant prices are not in the leaſt owing to good huſbandry, but the ſcarcity of the commodity. They uſe them for cows, ſheep, *&c. &c.* Clover is not very common, but they ſow it with barley; they get 15 *cwt.* of hay off it the firſt crop, and 10 or 12 *cwt.* the ſecond; but ſometimes they feed one crop.

Their culture of potatoes is as follows: They dung the lay ground well; lay the ſlices (18 buſhels) on the dung, and then dig trenches two ſpits wide, and cover the ſetts, which are laid ſeven inches ſquare, with the turfs and moulds that riſe: If weeds come they are drawn out by hand. The crop, upon an average, 180 buſhels *per* acre. Barley they ſow after them, and get thirty buſhels an acre. This is the lazy-bed way.

As to manure, they can at preſent boaſt a little, for lime is in uſe among them, but it has been only for two or three years; they lay 90 or 100 buſhels an acre on to fallow for wheat, coſts 4*d.* *per* buſhel; they do not pare and burn; ſtack their hay in houſes, but know nothing of chopping their ſtubbles.

Good graſs letts from 2*l.* to 3*l.* They uſe it chiefly for the dairy: An acre and a quarter, or an acre and half, they reckon ſufficient for the ſummer feed of a cow; and an acre to keep four or five ſheep. Their breed of cattle is the long horned. The product of a cow, 6*l.* 6*s.* to 7*l.* They give four gallons of milk *per* day, on an average. To ten cows, they keep two or three ſwine. The winter food hay and ſtraw; of the firſt, about an acre and half. The ſummer joiſt, 35*s.* A dairy-maid, they reckon, can take care of eight cows; calves ſuck from five to ſix weeks, both for rearing and butcher.

Sheep they reckon, I know not for what reaſon, hurtful among milch cows; their flocks are from

twenty to one hundred and fifty, the profit 5*s.* or 6*s.* *per* ſheep; keep them all the year in the field; the medium of their fleeces 6 or 7*lb.* from 3*d.* to 5*d.* *per lb.*

In the tillage of their lands they reckon four horſes neceſſary for fifty acres of arable land, uſe three or four in a plough, and do three rood a day. The annual expence of keeping a horſe they reckon 6*l.* They break up their ſtubbles for a fallow in *March*; plough in general about five or ſix inches deep; the common price 8*s.* an acre.

Two ſhillings a day the hire of a cart and horſe.

One hundred pounds they reckon ſufficient for ſtocking a farm of 50*l.* a year.

Tythes are generally taken in kind.

Poor rates 3*d.* in the pound; they ſpin flax and wool. Moſt of them drink tea twice a day.

Eſtates are either large, or under 100*l.* a year: Very few gentlemen of 2, 3, 4, or 500*l.* a year.

The farmers do not carry their corn above three miles.

The following ſketches of farms will give an idea of their general œconomy.

	55	acres in all	4 young cattle
	50	arable	2 fatting beaſts
£.	56	rent	1 boy
	4	horſes	1 labourer.
	10	cows	
Another,	70	acres in all	6 young cattle
	50	arable	30 ſheep
£.	65	rent	1 man
	5	horſes	1 boy
	12	cows	1 maid
	2	fatting beaſts	1 labourer.
Another,	35	acres in all	4 cows
	30	arable	6 young cattle
£.	35	rent	1 boy
	4	horſes	1 maid.

Another,

Another,	46 acres in all	6 cows
	38 arable	4 young cattle
	£. 40 rent	20 ſheep
	4 horſes	1. man.

LABOUR

In harveſt, 1*s.* a day and board.
In hay time, ditto.
In winter, 6*d.* and ditto
Reaping *per* acre, 8*s.* to 8*s.* 6*d.*
Ditching, 6½*d.* a rood.
Headman's wages, 9*l.* to 10*l.*
Next ditto, 6*l.*
Boy of 10 or 12 years, 3*l.*
Dairy maid, 4*l.* 4*s.*
Other ditto, 50*s.* to 3*l.* 3*s.*
Women *per* day in harveſt, 8*d.* and board.
In hay time, 6*d.* and ditto.
In winter, 4*d.* and ditto.

IMPLEMENTS.

No waggons.
A cart, 4*l.* to 6*l.*
A plough, 15*s.*
A harrow, 7*s.* 6*d.*
Few rollers.
A ſcythe, 2*s.* 3*d.*
A ſpade, 2*s.* 6*d.*
Laying a ſhare and coulter, 2*s.*
Shoeing, 1*s.* 4*d.*

PROVISIONS, &c.

Bread——Oats leſs than 1*d.*
Cheeſe, 3*d.*
Butter, 6½*d.* 18 *oz.*
Beef, 2½*d.*
Mutton, 2*d.*
Veal, 2*d.*
Pork, 4*d.*

Milk, ½ a quart new, three quarts ſkim for 1*d.*
Potatoes, 8*d.* a peck.
Candles, 6½*d.*
Soap, 6*d.*
Labourer's houſe-rent, 15*s.* to 30*s.*
——— firing, 25*s.* to 30*s.*

Lancaſter is a flouriſhing town, well ſituated for trade, of which it carries on a pretty briſk one; poſſeſſing about 100 ſail of ſhips, ſome of them of a good burthen, for the *African* and *American* trades; the only manufactory in the town is that of cabinet ware; here are many cabinet-makers, who work up the mahogany brought home in their own ſhips, and re export it to the *Weſt Indies, &c. &c.* It is a town that increaſes in buildings; having many new piles, much ſuperior to the old ſtreets, and handſomely raiſed of white ſtone and ſlate

At *Kabers* the ſoil is chiefly clay, but they have ſome light loam and ſome ſand; lets at an average for 17*s.* an acre. Farms from 10*l.* to 70*l.* a year.

Their courſe,

1. Fallow
2. Barley
3. Oats
4. Fallow
5. Wheat
6. Beans
7. Oats.

About *Cockeram* they break up and ſow,

1. Peaſe
2. Barley
3. Oats.

For wheat they plough three times, ſow three buſhels and a half, often in *February* and *March*, and get about twenty-ſix in return. For barley they ſtir three times, ſow three buſhels about *May* day, and gain thirty in return. They give but one ploughing for oats, ſow ſix buſhels, and gain forty in return. They ſtir but once for beans, ſow four buſhels, broad caſt, the beginning of *March*, and reckon the average produce at thirty-ſix buſhels. For peaſe they plough but once, ſow three buſhels, at the time with beans; the

the crop thirty buſhels For rye they plough thrice, ſow three buſhels, and gain four quarters in return.

But few turneps cultivated: The method is to plough twice for them, never hoe; the average value 8*l*. Uſe them for beaſts and ſheep.

For potatoes they plough thrice, dung the land well, and dibble them in eight or ten inches ſquare; they afterwards weed them by hand: The crop from 100 to 200 buſhels, at from 1*s*. to 1*s*. 4*d*. a buſhel: They ſow wheat after them, and get very fine crops, much ſuperior to their common ones.

As to manures, marle is the grand one, which is found under all this country, and generally within ſixteen or twenty inches of the ſurface; it lies in beds, many of them of a vaſt depth, the bottoms of ſome pits not being found: It is white, and as ſoft and ſoapy as butter. They lay about an hundred two horſe cart loads to an acre, but ſome farmers leſs, on to lays and ſtubbles. It laſts a good improvement for twenty years; coſts about 4*l*. 10*s*. an acre. Their hay they ſtack in houſes.

Good graſs letts for 26*s*. an acre; is uſed chiefly for dairying; one acre and a quarter they reckon enough for a cow in ſummer, and one acre to four ſheep. They marle a good deal, and find it a fine improvement, making the graſs fatten well, and excellent for milk. Their breed of cattle the long horned. They reckon the profit of a cow at 4*l*. and a middling one to yield ſix gallons of milk a day. The winter food ſtraw and hay, of the latter an acre and quarter: Keep about a pig to two cows; and reckon a dairy maid to ten or twelve. The ſummer joiſt is 30*s*. keep them in winter in the houſe.

Their ſwine they fat to 4*l*. 10*s*. or 5*l*. value.

Their flocks of ſheep riſe from twenty to 400, having ſome commons in the neighbourhood; and reckon the profit at 7*s*. 6*d*. or 8*d*. a head: Keep them all the year on the commons: Their fleeces weigh, at a medium, 3*l*.

In tillage they account ſix horſes neceſſary for fifty acres of arable land; uſe ſix in a plough, and do an acre a day. The annual expence *per* horſe 4*l.* 15*s.* None of them cut ſtraw into chaff. The time of breaking up their ſtubbles for a fallow is *Candlemas*; plough generally four or five inches deep. The hire of a cart and three horſes is 4*s.* 6*d.* a day.

They reckon 150*l.* neceſſary for hiring and ſtocking a farm of 50*l* a year.

Tythes compounded for.

Rates 3*d.* in the pound. The employment of the poor women and children ſpinning flax.

Leaſes are both for terms of years and for lives.

The farmers carry their corn fourteen miles.

The following are the particulars of ſome farms in this country.

	45 acres in all	12	ſheep
	13 arable	1	man
£.	50 rent	2	maids
	4 horſes	1	labourer
	4 cows	1	plough
	6 young cattle	3	carts.
	3 fatting beaſts		
Another,	62 acres in all	3	fatting beaſts
	16 arable	30	ſheep
	46 graſs	1	man
£.	63 rent	1	maid
	5 horſes	1	boy
	10 cows	2	ploughs.
	8 young cattle	2	carts.
Another,	70 acres in all	40	ſheep
	30 arable	1	man
	40 graſs	1	boy
£.	75 rent	1	maid
	8 horſes	1	labourer
	12 cows	3	ploughs
	10 young cattle	4	carts.
	5 fatting beaſts		

LABOUR.

In harveſt, 1*s.* and board.
In hay-time, ditto.
In winter, 6*d.* and ditto.
Reaping wheat, 6*s.* 6*d.*
——— barley, 6*s.*
——— oats, 5*s.*
——— beans, 6*s.*
Mowing graſs, 2*s.* and ale.
Ditching, 6*d.* to 8*d. per* rood.
Firſt man's wages, 9*l.*
Next ditto, 5*l.*
Boy of 10 or 12 years, 40*s.*
A dairy maid, 3*l.*
Other ditto, 40*s.* to 50*s.*
Women *per* day in harveſt, 8*d.* and board.
In hay-time, 6*d.* and ditto.
In winter, 4*d.* and ditto.
They reckon the value of a man's board, waſhing and lodging, 3*s.* 6*d.* a week.

IMPLEMENTS, *&c.*

No waggons.
A cart, 8*l.* to 9*l.*
A plough, 15*s.*
A harrow, 11*s.*
A roller, 10*s.* 6*d.*
A ſcythe, 2*s.* 6*d.*
A ſpade, 3*s.*
Laying a ſhare, 8*d.*
——— coulter, 8*d.*

PROVISIONS, *&c.*

Bread——oat, 11 *lb.* for 1*s.*
Cheeſe, 3*d.*
Butter, 8*d.* 16 *oz.*
Beef, 2½*d.*
Mutton, 2½*d.*

Pork,

Pork, 4*d.*
Milk, ½*d.* a pint.
Potatoes, 3*d.* a peck.
Turneps, 1½*d.* ditto.
Candles, 7½*d.*
Soap, 6*d.*
Labourer's houſe rent, 20*s.*
——— firing, 20*s.*
Tools, 10*s.* 6*d.*

Around *Garſlang* are ſeveral variations which deſerve noting. The ſoils are clay, black moory, on clay, and light loam; letts on an average at 17*s.* an acre. Farms from 10*l.* to 150*l.* a year. Their courſe,

1. Fallow
2. Wheat
3. Beans
4. Barley
5. Oats, and then left to graze itſelf, and they aſſured me very gravely the graſs was excellent: They plough thrice for wheat, ſow three buſhels a fortnight before *Michaelmas*, and reckon thirty-five buſhels the average produce. For barley they ſtir from one to four times, ſow three buſhels *per* acre the end of *April*; and gain thirty buſhels an acre. For oats they plough but once, ſow ſeven buſhels an acre in *March*, and gain on an average forty-five buſhels. They ſtir but once for beans, ſow four buſhels and a half, broad caſt, both under furrow, and above, the end of *February* or beginning of *March*; never hoe them: They gain thirty buſhels. Sow neither peaſe nor rye, and ſcarce any turneps. Clover with both barley and oats; and generally mow it for hay.

For potatoes they dig all the land nine inches deep, and then dung it well; dibble in the ſetts nine inches aſunder; reckon a peck to ſet a perch of twenty-one feet: They hand-weed them, and gain upon an average three buſhels and a half *per* peck, or 450 buſhels *per* acre; after them they ſow corn of all ſorts, and get great crops.

Marle

Marle is their principal manure, both white, black, blue, ſandy, and ſome ſhell marle. They ſometimes find perfect cockle and periwinkle ſhells, nine yards deep, in beds of marle. The ſurface is from one to four feet of thickneſs above it: Twenty-three ſquare yards do an acre. It is quite ſoft and ſoapy. The land will be for ever the better for it: It does beſt on light ſoils. The marle huſbandry here is to plough three years, and let it lie three. They find a ſecond, and even a third marling, to anſwer well: The average expence about 4*l.* *per* acre.

Lime they alſo uſe: Lay 50 windles *per* acre, at 1*s.* 4*d.* *per* windle; and ſometimes up to 80 and 100; the expence to 5*l.* and 6*l.* 10*s.* *per* acre; laſts generally four or five years in great heart; but, with very good management, for twenty years.

Good graſs letts from 30*s.* to 35*s.* an acre, they uſe it chiefly for cows, and reckon an acre and a quarter ſufficient for the ſummer feed of a cow, and four ſheep to the acre. They manure their paſtures with both marle and lime. The breed of their cattle long horned. And it will not here be amiſs to remark, that *Lancaſhire* is famous for this long horned breed, ſo that cows, which come of thorough bred bulls (and they are very curious in their breed) will ſell at very high prices, up to 20 and 30*l.* a cow, if they promiſe well for producing good bulls, which ſometimes ſell for 100*l.* or 200*l.* a bull.

They fat their oxen to forty and ſixty ſtone.

Their ſwine, in common, to twenty ſtone: One in particular, to thirty.

They reckon the product of a cow from 3*l.* 10*s.* to 4*l.* Keep ſcarce any ſwine the more upon account of their dairies. Feed their cows in winter upon ſtraw and hay; and reckon an acre of the latter neceſſary. The ſummer joiſt 20*s.* to 30*s.* Keep them in both field and houſe in the winter.

Their flocks of ſheep riſe from twenty to two hundred, calculate the profit at 4*s.* or 5*s.* keep them in

in both winter and ſpring on the commons: The mean weight *per* fleece 3 *lb.*

They reckon twelve or thirteen horſes neceſſary for the management of 100 acres of arable land. Uſe four in a plough, and do an acre a day. The annual expence of keeping horſes 5*l.* 10*s.* each. The ſummer joiſt 30*s* to 50*s.* and 3*s.* 6*d.* a week. They break up their ſtubbles for a fallow in *March*; plough in general ſix inches deep. The price *per* acre 8*s.* Know nothing of chopping ſtraw for chaff. Hire of a cart, three horſes and a driver, 4*s.* a day.

In the ſtocking of farms 500*l.* are neceſſary to ſtock a grazing one of 150*l.* a year; but 200*l.* ſufficient for the common ones of 100*l.* a year.

Land ſells at from thirty to forty years purchaſe.

Tythes both gathered and compounded for.

Poor rates in *Garſtang* 5*d.* in the pound; in villages 2*d.* They ſpin cotton and flax. All drink tea.

But few ſmall eſtates.

The farmers carry their corn twelve miles.

Many leaſes for three lives; and ſome on terms of years.

The following particulars of farms will ſhew the general œconomy of the country.

200	acres in all	25	young cattle
70	arable	50	ſheep
130	graſs	2	men
£. 180	rent	2	boys.
12	horſes	2	maid
10	cows	2	labourers.
8	fatting cattle		
Another, 160	acres in all	4	fatting beaſts
60	arable	200	ſheep (common right)
100	graſs	1	man
£. 140	rent	2	maids
9	horſes	3	boys
15	cows	2	labourers.
18	young cattle		

Another,

Another, 110 acres in all
50 arable
60 graſs
£. 85 rent
8 horſes
6 cows
15 young cattle
2 fatting beaſts
26 ſheep
1 man
1 maid
2 boys
1 labourer.

LABOUR.

In harveſt, 1*s.* a day and board.
In hay time, 10*d.* and ditto.
In winter, 6*d.* and ditto.
Reaping wheat, 6*s.*
——— barley, 5*s.* 6*d.*
——— oats, 5*s.* 6*d.*
——— beans, 7*s.* to 8*s.* 6*d.*
Ditching, 3*d.* to 5*d.*
Firſt man's wages, 10*l.*
Next ditto, 7*l.*
Boy of ten or twelve years, 38*s.*
Dairy maid, 3*l.* 10*s.*
Other ditto, 3*l.*
Women *per* day in harveſt, 6*d.* and board.
In hay-time, 5*d.* and ditto.
In winter, 4*d.* and ditto.

IMPLEMENTS, &c.

Scarce any waggons, but coming into uſe ſlowly.
A cart, 12*l.*
A plough, 20*s.*
A harrow, 10*s.*
No rollers.
A ſcythe, 3*s.* 6*d.*
A ſpade, 3*s.*
Shoeing, 1*s.* 4*d.*

PRO-

PROVISIONS, &c.

Bread——Oat, ¾ and 1*d. per lb.*
Cheeſe, 3*d.*
Butter, 7*d.* 16 *oz.*
Beef, 3*d.*
Mutton, 3*d.*
Pork, 3*d.*
Candles, 6½*d.*
Soap, 6*d.*
Labourer's houſe rent, 15*s.* to 40*s.*
——— firing, 30*s.*

BUILDING.

Oak timber, 1*s.* 6*d.* to 3*s.*
Aſh, 1*s.* 4*d.*
Elm, 1*s.* 4*d.*
Soft woods, 6*d.*
Maſon *per* day, 1*s.* 6*d.* and beer.
Carpenter, 1*s.* and ditto.
Walling, 7*d.* a yard the workmanſhip.

From *Garſlang* to *Wigan* land letts from 15*s.* to 3*l.* an acre, average 25*s.* and farms riſe from 30*l.* to 100*l.* a year.

From *Wigan* to *Warrington* land from 15*s.* to 3*l.* 10*s.* and farms 15*l.* to 100*l.* a year. At *Warrington* the manufactures of ſail-cloth and ſacking are very conſiderable. The firſt is ſpun by women and girls, who earn about 2*d.* a day. It is then bleached, which is done by men, who earn 10*s.* a week; after bleaching it is wound by women, whoſe earnings are 2*s.* 6*d.* a week: next it is warped by men; who earn 7*s.* a week; and then ſtarched, the earnings 10*s.* 6*d.* a week. The laſt operation is the weaving, in which the men earn 9*s.* the women 5*s.* and boys 3*s.* 6*d.* a week.

The

The ſpinners in the ſacking branch earn 6*s.* week, women; then it is wound on bobbins by women and children, whoſe earnings are 4*d.* a day; then the ſtarchers take it, they earn 6*s.* a week: after which it is wove by men, at 9*s.* a week. The ſail-cloth employs about three hundred weavers, and the ſacking a hundred and fifty; and they reckon twenty ſpinners and two or three other hands to every weaver.

During the war the ſail-cloth branch was very briſk, grew a little faint upon the peace, but is now and has been for ſome time pretty well recovered, though not to be ſo good as in the war. The ſacking manufacture was better alſo in the war; but is always briſk.

The ſpinners never ſtand ſtill for want of work; they always have it if they pleaſe; but weavers ſometimes are idle for want of yarn, which, conſidering the number of poor within reach, (the ſpinners of the ſacking live chiefly in *Cheſhire*) is melancholy to think of.

Here is likewiſe a ſmall pin-manufactory, which employs 200 or 300 children, who earn from 1*s.* to 2*s.* a week.

Another of ſhoes for exportation, that employs four or 500 hands (men) who earn 9*s.* a weeks.

PROVISIONS, &c.

Bread——oat and barley mixed.
Butter, 7½*d.* 16 *oz.*
Cheeſe, 3*d.*
Mutton, 3*d.*
Beef, 3*d.*
Veal, 3*d.*
Pork, 4*d.*
Bacon, 6*d.*
Milk, ½*d.* a half pint.
Potatoes, 3½*d.* a peck.

Poor's

Poor's houſe rent, 20*s.* to 30*s.*
——— firing, 16.

Upon the whole theſe manufactures are very advantageous, as they employ above 11,000 hands.

At *Bowls*, between *Warrington* and *Preſcot*, the ſoils are clay and rich loam, lett from 10*s.* to 25*s.* an acre. Farms from 20*l.* to 80*l.* a year. Their courſes,

1. Fallow
2. Wheat
3. Oats.

Alſo,
1. Fallow
2. Wheat
3. Oats
4. Clover.

Of wheat they get ſixteen buſhels *per* acre; oats twenty-five, and beans ſixteen. Their principal manure is marle; lay on an acre two or three rood, at eight ſquare yards each, coſts 3*l.* an acre, and laſts good ſeven or eight years: Uſe it chiefly for clay ſoils. Lime they lay on warm dry lands, 125 buſhels *per* acre, coſts 3*l.* 10*s.* or 4*l.* They plough up their ſtubbles at *Candlemas* for a fallow. The produce of a cow they reckon at 3*l.*

The following are the particulars of ſome farms in this neighbourhood.

40 acres in all	3 horſes
12 arable	4 cows
28 graſs	6 young cattle
£. 50 rent	1 maid.
Another, 65 acres in all	6 young cattle
20 arable	20 ſheep
45 graſs	1 man
£. 58 rent	1 boy
4 horſes	1 maid.
6 cows	
Another, 90 acres in all	13 young cattle
30 arable	20 ſheep
60 graſs	1 man
£. 85 rent	1 maid
6 horſes	1 boy.
10 cows	

The

The town of *Liverpool* is too famous in the trading world to allow me to paſs it without viewing: I wanted to be informed of a few particulars relative to the ſhipping, imports, exports, and riſe and fall of their commerce, a little of which I gained, though by no means what I wiſhed. I walked over the town for a view of the publick buildings, &c. the following are the minutes I took.

The exchange is a quadrangular building ſurrounding a court, which is incloſed by a double row of *Tuſcan* pillars, and over them another of *Corinthian* ones; but the area is ſo ſmall, that it has more the appearance of a well than the court of an edifice. In this building is the aſſembly-room, ſixty-five feet by twenty five, handſomely fitted up; but the muſic-gallery at one end is a mere over-grown ſhelf; the common blunder in nine aſſembly-rooms out of ten. The card room is prepoſterous; a narrow ſlip of about eleven feet wide; ſo that *Lilliputian* card tables muſt be made on purpoſe for the room, or no paſſage remain around them for ſpectators. From the cupola on the top of the building is a very fine view of the town.

The new church, dedicated to St. *Paul*, is a building that does credit to the town: It ſtands in the center of a ſquare, ſo that you may view it to much better advantage than its nameſake at *London*; but tho' handſome in ſeveral reſpects, yet will it by no means ſtand ſo well the teſt of examination. The cupola is by no means ſtriking; it does not riſe in a bold ſtile; its being ribbed into an octogon is diſadvantageous; nor is there ſimplicity enough in the lantern. There is a great heavineſs in the breadth of the ſpace between the capitals of the pillars and the cornice. Within there is a central circular area of forty feet diameter, incloſed by pillars of the *Ionic* order: There is much lightneſs, and a ſimple elegance in it that is pleaſing; but all hurt by the abſurdity of the ſquare cornices above the pillars, which project ſo much as to be quite

diſguſting. This church was raiſed at the expence of the pariſh, and coſt 12,000*l.*

But the glory of *Liverpool* is the docks for the ſhipping, which are much ſuperior to any mercantile ones in *Britain:* One very fine new one, of a circular form, is finiſhed, and defended by a pier, all excellently well faced with ſtone, and perfectly ſecure from ſtorms. Out of this is an entrance into another, called the *New Dock*, now executing, of a large ſize, capable of containing ſeveral hundred ſail, and faced in the ſame manner all round with large ſtone: Out of this is to be a paſſage into another very capacious one, called the *Dry Pier*, and this again leads into two others, called the *Old* and *South Docks*; and likewiſe has an entrance by the river from the ſea: Into this likewiſe open three very noble docks for building large ſhips, admirably contrived. Theſe three, *Dry Pier*, and *Old* and *South Docks*, are all totally ſurrounded by the town, ſo that ſhips of 4, 5, 600, and ſome of 900 tons burthen, lay their broad ſides to the quays, and goods are hoiſted out of them, even into many of the warehouſes of the merchants.

A little out of the town is a very pretty new walk, ſpread on one ſide with ſmall plantations, and looking on the other down upon the town and river: A coffee-houſe, *&c.* built new upon it: It is lately done, and a good improvement.

There is a manufacture of porcelane at this place, which employs many hands; the men earn in it from 7*s.* to 10*s.* a week. Likewiſe a ſtocking manufactory, in which they earn from 7*s.* to 9*s.* Alſo two glaſs-houſes, in which the earnings are 9*s.* or 10*s.* a week.

Poor rates in *Liverpool* 1*s.* in the pound.

Land, five miles round it, letts, at an average, at 31*s.* 6*d. per* acre.

They ſuppoſe the number of inhabitants to be near 40,000.

PRO-

PROVISIONS, &c.

Bread, 1½*d.*
Butter, 8*d.* 18 *oz.*
Cheeſe, 3½*d.*
Beef, 2½*d.*
Mutton, 3½*d.*
Veal, 4*d.*
Pork, 4*d.*
Bacon, 7*d.*
Milk, ½*d.* a pint.
Potatoes, 3*d.* a peck.
Candles, 7½*d.*
Soap, 7½*d.*
Poor's houſe-rent, 20*s.* to 30*s.*
——— firing, 15*s.* to 20*s.*

The trade of *Liverpool* increaſed regularly during the whole courſe of the war, and was at its height when the new regulations of the *American* trade took place: The ſtopping the trade with the *Spaniards* in *America*, with ſome other meaſures at that time relative to the Colonies, gave a blow to the commerce of this town, which ſhe has not recovered; ſo that they have ſince been, and are now, much upon the decline: A great number of ſhips are laid by in the harbour, and a general languor ſpread over their whole trade.

The huſbandry around *Ormſkirk*, particularly about *Halſall*, is as follows: The ſoil is in general a ſandy loam; letts, upon an average, at 15*s. per* acre. Farms from 5*l.* to 100*l.* a year, but chiefly about 40*l.* Their courſe is,

1. Break up the ground, and ſow Oats
2. Barley
3. Wheat
4. Oats
5. Vetches
6. Barley
7. Clover three or four years, and then comes to graſs of itſelf, and very fine graſs it muſt be.

They plough five times for wheat, ſow a buſhel and half, and reap from twenty-five to thirty-five buſhels. For barley they plough thrice, ſow two buſhels and an half, and get about twenty in return. They ſtir but once for oats, ſow four buſhels; the crop twenty. For beans they give three earths, ſow two buſhels and half, broad caſt, never hoe them, and get upon an average about thirty. They uſe very little rye or peaſe. Their clover they reckon more profitable than corn, get very great crops.

They uſed always to dig for potatoes, but have of late changed that method for ploughing: They ſet them upon both graſs and tillage land, but always dung well. The ſoil they prefer is the light ſandy. They lay the ſlices in the furrows after the plough, ſo as to come up about nine inches aſunder every way; while growing they hand weed them. A common crop is 150 buſhels; and a good acre worth 10*l.*

The principal manure uſed here is marle, which they lay upon the ſandy ſoils; it coſts about 3*l.* an acre, and laſts good for twenty years; improves beſt for wheat and oats. They ſtack their hay in the farm yards, but know nothing of chopping the corn ſtubbles.

Good graſs letts at 30*s* an acre; they uſe it both for fatting, dairying, and breeding; two acres they reckon neceſſary to ſummer feed a cow; never manure their graſs

They reckon the product of a cow at 5*l.* give upon a medium ſix gallons of milk a day. They keep about two or three hogs to ten cows. The winter food is hay and ſtraw, of the firſt about 120 ſtone (20*lb.* each) is ſufficient; and have it in the houſe all winter. The calves they bring up by hand, one month for the butcher, and two months for rearing. They reckon a dairy-maid can take care of ten cows. The ſummer joiſt is 20*s*.

The flocks of ſheep riſe from twenty to an hundred; the profit *per* head 10*s*. They keep them all winter

winter and ſpring upon graſs. The average weight of the fleeces about 2 *lb.*

In their tillage they reckon ſix horſes neceſſary for an hundred acres of arable land; uſe two or three in a plough, and do an acre a day. The annual expence *per* horſe 5*l.* The ſummer joiſt 40*s.* They break up the ſtubbles for a fallow in *February* or *March*; the common price *per* acre of ploughing 4*s.* to 5*s.* They ſtir ſix inches.

They know nothing of cutting ſtraw into chaff.

The hire of a cart, three horſes, and a driver *per* day is 5*s.*

In the hiring and ſtocking of farms they reckon 150*l.* ſufficient for one of 50*l.* a year.

Land ſells from thirty to forty years purchaſe. No little eſtates.

Tythes are taken in kind.

Poor rates 6*d.* in the pound: The employment ſpinning cotton. Some of them drink tea.

The farmers carry their corn ſeven or eight miles.

Leaſes run in general on terms of years, ſeven, fourteen, or twenty-one; but ſome on three lives.

The general œconomy will be ſeen from the following ſketches:

	400	acres in all	40 ſheep
	100	arable	4 men
	300	graſs	2 boys
£.	200	rent	2 maids
	20	horſes	2 labourers
	30	cows	4 ploughs
	30	young cattle	2 carts.
	10	fatting beaſts	
Another,	60	acres in all	15 cows
	20	arable	10 young cattle
	40	graſs	1 man
£.	120	rent (it is near the town)	1 maid
	3	horſes	1 plough
			1 cart.

Another,	60 acres in all	3 fatting beaſts
	20 arable	20 ſheep
	40 graſs	1 man
	£. 50 rent	1 maid
	3 horſes	1 plough
	6 cows	1 cart.
	10 young cattle	
Another,	135 acres in all	40 ſheep
	70 arable	2 men
	65 graſs	2 boys
	£. 95 rent	2 maids
	8 horſes	2 labourers.
	20 cows	3 ploughs
	6 young cattle	3 carts.

LABOUR.

In harveſt, 1*s.*
In hay time, 8*d.*
In winter, 10*d.* (this they ſay is becauſe the work is ſo much harder.)
Mowing graſs, 1*s.* 3*d.*
Ditching, 8*d.* to 1*s.* a rood.
Threſhing wheat, 3*d.* a buſhel.
——— barley, 2*d.*
——— oats, 1½*d.*
——— beans, 2*d.*
Headman's wages, 7*l.*
Next ditto, 5*l.*
Boy of 10 or 12 years, 30*s.*
Dairy maids, 3*l.*
Other ditto, 2*l.* 10*s.*
Women *per* day in harveſt, 1*s.*
In hay time, 8*d.*
The value of a man's board, waſhing, and lodging, 9*l.*

IMPLE-

IMPLEMENTS, &c.

No waggons.
A cart, 4*l.*
A plough, 20*s.*
A harrow, 10*s.*
No rollers,
A ſcythe, 3*s.*
A ſpade, 3*s.*
Shoeing, 1*s.* 4*d.*

BUILDING.

Bricks, *per* thouſand, 10*s.*
Oak, 1*s.*
Maſon, *per* day, 2*s.*
Carpenter, 2*s.*
Farm houſes of brick and ſlate.

In the pariſh are,

2000	acres	20	poor
100	farms	200	horſes
£. 2000	rent	400	cows
£. 50	rates	200	ſheep
£. 25	highways	100	fatting beaſts.
55	labourers		

On the weſtern ſide of *Halſell*, near the ſea, lie about 1000 acres of bog, called *Halſell-Moſs*, which about thirty years ago was not on an average worth 1*d.* an acre: Turfs were dug out of part of it for burning. Mr. *Edward Segar*, of Barton-*Houſe*, who poſſeſſed a conſiderable part of it, began the improvement of it, which has ſince been conducted by Mr. *Parke* of *Liverpool*.

It was ſo very ſoft that no cattle could go on it during the greateſt part of the year; for which reaſon the firſt buſineſs was draining. It was for that purpoſe divided into fields of about two acres each, by ditches five feet wide at top, three feet deep, and three feet wide at bottom; the digging theſe cuts coſt 4*d. per* rood.

In about a year the ditches were half cloſed up; and all cleaned out again. Then another year elapſed

before any further improvement was undertaken: This time was given it for a gradual draining, that the ſurface might be tolerably firm for the bearing of men and horſes.

At the end of the ſecond year it was conſolidated enough to bear men for paring and burning it, which was performed in winter, two or three inches deep. The paring coſt 7*s. per* acre, and the burning 1*s.* 6*d.*

After this it was ploughed with one horſe in boots, ſhod with boards of an oval ſhape, eighteen inches wide, which enabled the horſe to move ſecurely upon the bog. The turfs raiſed by this ploughing were alſo burnt; for the firſt paring is often of ſo puffy a nature as to afford ſcarce any aſhes; but the ſecond, coming after a greater conſolidation, and the plough cutting ſo much deeper than a man, the aſhes are more in quantity and of a better nature. This ſecond burning was performed the beginning of *Auguſt*.

The aſhes were ploughed in immediately, quite hot, to the depth of about three or four inches, and upon that one earth, without any harrowing either before or after, rye was ſown the beginning of *September*, near a buſhel to the acre, which generally produced about twenty-five in return.

This rye was off the land time enough for another burning of the old furrows, which coſt about 3*s.* an acre; after which it was again ploughed, and ſown with rye as before, and the crop nearly the ſame.

With this ſecond crop of rye much natural graſs came, which was left to itſelf for three years, but kept paſtured by cattle, and turfed very well

In the *April* after theſe three years, it was ploughed as at firſt with one horſe, and the furrows burnt; then it was ſtirred a ſecond time and ſown with oats, four buſhels *per* acre, and the crop was near thirty. After they were cleared from the land, it was burnt again as in the former courſe, and after a ploughing, a ſecond crop of oats ſown, that yielded much the ſame as the laſt. The graſs again coming of itſelf, it

was

was left to graze for four years, and was a very good paſture.

This was the general management: Taking two crops of rye or oats, and then letting it lye in graſs for three or four years, and always breaking up with burning: And in this management ſeveral hundred acres were and are adjudged by many farmers, to be worth from 7*s.* 6*d.* to 15*s.* *per* acre.

As the rye is ſown without harrowing, it ſhould be while corn is plentiful in the field, that vermin may have no particular temptation to attack it.

This ſyſtem of management has been found, *on experience*, to be very advantageous; it would be, therefore, impertinent to preſcribe, for ſuch a peculiar ſoil, any improvements; but I cannot avoid remarking, that if graſs ſeeds were ſown with the ſecond corn crop, the ſucceeding paſture would probably be much better. The public is, however, much indebted to theſe gentlemen for the diſcovery.

Returning to *Warrington*, I took the road to *Altringham*; the country of various ſoils, but chiefly loam and ſand; letts from 13*s.* to 22*s* *per* acre. About that place it is chiefly ſandy and ſome clay, and light loam; letts from 15*s.* to 25*s.* an acre.

Farms from 20*l.* a year to 300*l.* The courſe of crops

1. Fallow
2. Wheat
3. Oats
4. Clover for different terms.

They plough three or four times for wheat, ſow two buſhels a fortnight or three weeks before *Michaelmas*, and reckon the average produce at thirty buſhels. For barley they plough thrice, ſow four buſhels the beginning of *May*, and gain in return about thirty-three at a medium. For oats they give but one ploughing, ſow four buſhels and a half the beginning of *March*, and get about forty-five at a medium. They give two or three earths for beans, dibble them in, three buſhels *per* acre, at ſix inches aſunder, and hand weed them while growing; the crop forty buſhels.

buſhels. They ſow wheat after them, and get good crops. For peaſe they alſo plough twice or thrice, dibble them as beans, and hand weed them; the crop about three quarters.

But few turneps are cultivated; ſuch as do ſow them, plough the land three or four times; no hoeing, but the crop is thinned by hand for ſerving the markets. Average value from 4*l.* to 10*l* an acre. Uſe them for all ſorts of cattle. Clover they ſow with barley and oats, uſe it chiefly for hay, of which they get two tons *per* acre at a mowing. Tares they ſow for hay, and get four loads an acre, three horſe cart loads, worth 20*s.* a load, and fallow after them for wheat. Buckwheat they have ſown for a dreſſing for wheat, by ploughing it in, and find it does beſt on dry ſandy land.

They dig for potatoes generally after oats, dunging the land well; they dibble the ſetts in, twenty-two buſhels do an acre. Some hand-weed them while growing; others hand-hoe them. The crop about 320*cwt. per* acre, (120*lb.* each;) ſome twice as much. Mr. *Thomas Warburton*, of *Altringham*, made for ſome years 25*l.* a year from one acre of land by potatoes. They ſow wheat or barley after them, and are ſure of a great crop.

Marle is their great manure; they have it of all ſorts, red, white, blue, black, and brown; they reckon it does beſt on the ground it is under; lay from twenty-four to forty ſquare yards on an acre. Upon clay they lay thirty-two; upon ſand forty; and upon bog the ſame. It coſts about 1*s.* a yard. It will be an improvement in ſome meaſure for ever, if not kept too long in tillage. They have found from experience, that it anſwers well to marle twice.

Lime they alſo uſe both upon clay and ſand, but does beſt upon the former: They lay on an acre eighty or an hundred loads, at ten pecks each. Another and excellent way of uſing it is, to plant potatoes upon the ſtuff thrown out of their ditches, and afterwards

mix

mix it up with lime. It coſts 1*s.* a load thirteen miles off. Their boggy land they pare and burn. They buy dung at *Mancheſter* at from 4*d.* to 7*d.* a ton, but agree for it in the lump. They ſtack their hay at home.

Good graſs letts at 30*s.* an acre; they apply it both to fatting and dairying; and reckon that an acre is ſufficient to keep a cow through the ſummer; but they both dung and marle it. Their breed of horned cattle is the long horns, fat them from thirty to fifty ſtone. The product of a cow they reckon at 5*l.* 10*s.* and the average quantity of milk five gallons a day. They do not keep above two or three hogs to twenty-ſix cows. When dry, the winter food is ſtraw; but near and after calving, hay and ground oats; of the firſt about one half or three quarters of an acre. The calves do not ſuck above two or three weeks for the butcher; but for rearing all are brought up by hand. A dairy-maid uſually takes care of ſeven or eight cows. The ſummer joiſt is 30*s.* In the winter they are kept in the houſe.

Hogs they fat up to twenty-five ſtone.

The flocks of ſheep are not many near the town, but at a ſmall diſtance they riſe from twenty to two hundred; the profit they calculate at 10*s.* a head. The winter ſpring food is a few turneps, but in general graſs alone. The average of fleeces about 4½ *lb.*

In their tillage they reckon ſix horſes neceſſary for one hundred acres of arable land: They uſe three or four in a plough, and do an acre a day. They calculate the whole annual expence *per* horſe at 4*l.* 16*l.* The ſummer joiſt 40*s.* The price *per* acre of ploughing is 5*s.* 3*d.* and the time of breaking up their ſtubbles for a fallow, after the barley ſowing. The general depth five inches.

They know nothing of cutting ſtraw into chaff.

The hire *per* day of a cart, three horſes, and a driver, 5*s.*

In

In the hiring and ſtocking of farms, they reckon that, with particular management, a man may ſtock one of 100*l.* a year for 200*l.* but that for 300*l.* many ſuch are taken. That ſum they divide in the following manner:

Twenty beaſts,		£. 120		
Five horſes,		40		
Forty ſheep,		16		
Pigs,		2		
		178		
Harneſs,				
Chains		0 7 0		
Backband,		0 5 0		
Bellyband,		0 1 0		
Halms,		0 3 0		
Collar,		0 7 0		
Halter,		0 3 0		
		1 6 0		
		5		
			6	10
Two road carts,		14		
Three home ditto,		12		
Sundry ſmall implements,		4	10	
Two ploughs,		2		
Harrows,		4		
Roller,		1		
Houſe keeping,		30		
Labour,		35		
Seed,		20		
		£. 307		

Land ſells at thirty years purchaſe. Many eſtates of 2 or 300*l.* a year.

Tythes are generally gathered; poor rates from 1*s.* 6*d.* to 2*s.* 6*d.* in the pound; their employment ſpinning flax and wool. All drink tea.

The

The farmers carry their corn eight miles.

Leaſes run from ſeven to fourteen years; ſome for three lives.

The general œconomy of the country will be ſeen from the following ſketches of farms.

40	acres in all	2 young cattle
10	arable	1 boy
30	graſs	1 maid
£. 40	rent	2 carts
2	horſes	2 ploughs.
7	cows	
Another, 200	acres in all	60 ſheep
100	arable	3 men
100	graſs	2 boys
£. 300	rent	2 maids
10	horſes	2 labourers
26	cows	1 waggon
5	fatting beaſts	4 carts
20	young cattle	3 ploughs.
Another, 110	acres in all	20 ſheep
40	arable	1 man
70	graſs	1 boy
£. 90	rent	1 maid
4	horſes	1 labourer
15	cows	2 carts
2	fatting beaſts	2 ploughs.
8	young cattle	
Another, 87	acres in all	10 young cattle
40	graſs	30 ſheep
47	arable	1 boy
£. 72	rent	1 maid
4	horſes	1 labourer
6	cows	2 carts
3	fatting beaſts	1 plough.

LABOUR.

In harveſt, 1*s.* 3*d.* or 1*s.* and beer.

In hay time, 1*s.* and beer.

In

In winter, 10*d.*
Reaping wheat, *per* acre, 3*s.* to 4*s.*
——— barley, 4*s.* to 5*s.*
——— oats, 3*s.* to 4*s.*
——— beans, 4*s.* 6*d.*
Mowing graſs, 1*s.* 6*d.* to 2*s.* 6*d.*
Ditching, 5*d.* to 8*d.*
Threſhing wheat, 1*s.* 2*d.* *per* five buſhels.
——— barley, 1½*d* *per* buſhel.
——— oats, 1*s.* 6*d.* or 2*s.* *per* 20 meaſures
——— beans, 1*s.* *per* 5 buſhels.
Digging, 8*d.* *per* rood.
Head man's wages, 6*l.* to 10*l.*
Next ditto, 5*l.*
Boy of ten or twelve years, 40*s.*
Dairy maid, 4*l.* to 5*l.*
Other maids, 2*l.* to 3*l.*
Women *per* day in harveſt, 1*s.* and beer.
——— in hay time, 8*d.* and ditto.
Value of a man's board, waſhing, and lodging, 3*s.* 6*d.* a week.

IMPLEMENTS, &c.

Few waggons.
A cart, 8*l.*
A plough, 20*s.*
A harrow, 25*s.*
A ſcythe, 2*s.* 6*d.* to 3*s.*
A ſpade, 4*s.*
Shoeing, 1*s.* 4*d.*

PROVISIONS, &c.

Bread——wheat and barley mixed.
Cheeſe, 3½*d* *per lb.*
Butter, 7*d.* 18 *oz.*
Beef, 2*d.* to 2½*d.*
Mutton, 3*d.*
Veal, 3½*d.*
Pork, 3½*d.*
Bacon, 7*d.*

Milk,

Milk, new, ½*d.* *per* pint, ſkim, ½ *per* quart.
Potatoes, 4*s.* 6*d.* *per* 212*lb.*
Labourer's houſe rent, 30*s.*
——— firing, 20*s.*

BUILDING.

Bricks, *per* thouſand, from 8*s.* 6*d.* to 20*s.*
Oak timber, 8*d.* to 2*s.*
Aſh ditto, 8*d.*
Maſon *per* day, 1*s.* 6*d.*
Carpenter ditto, 1*s.* 6*d.*

I forgot to tell you, that one or two ſenſible farmers in this neighbourhood have of late come into the way of making hollow drains for the improvement of their wet lands. They dig them from two feet to three or four deep, ſet two bricks on edge along the bottom, and lay another over them in this manner, Pl. IV. Fig. 1. They are then filled up with the moulds. The digging, laying, and filling coſt 4*d.* a rood.

From *Altringham* I took the road to *Manchester*, with deſign, not only to view the manufactures of that town, but to make it my head quarters from thence to go the tour of his Grace the Duke of *Bridgwater*'s navigation, about which ſuch wonders are abroad; if only half are true, I ſhall be not a little entertained.

The *Manchester* manufactures are divided into four branches,

The fuſtian	The hat
The check	The worſted ſmall wares.

All theſe are ſub-divided into numerous branches, of diſtinct and ſeparate work. In that of fuſtians are thirteen.

N°. 1. Corded dimities	N°. 4. Thickſets
2. Velvets	5. Pillaws
3. Velverets	6. Quilts

N°. 7. Pet-

N°. 7. Petticoats
8. Draw-boys
9. Diapers
10. Herringbones
N°. 11. Jeans,
12. Jeanets
13. Counterpanes.

Theſe goods are worked up of cotton alone, of flax and cotton, and of *Hamborough* yarn. All ſorts of cotton are uſed, but chiefly the *Weſt Indian*. Theſe branches employ men, women, and children.

In the branch N°. 1. Men earn from 3*s*. to 8*s*. a week.
Women the ſame.
No children employed in it.
2. Men from 5*s*. to 10*s*.
Neither women or children.
3 and 4. Men from 5*s*. to 10*s*. average 5*s*. 6*d*.
Women as much.
Children 3*s*.
5. Men from 4*s*. to 5*s*.
Women the ſame.
Children 2*s*. 6*d*.
6 and 7. Men from 6*s*. to 12*s*.
Neither women or children.
8. Men, at an average, 6*s*. but a boy paid out of it.
No women.
9. Men from 4*s*. to 6*s*.
Women as much.
No children.
10. All children, 1*s*. 6*d*.
11. Men from 4*s*. to 10*s*.
No women or children.
12. Women 1*s*. 6*d*. to 3*s*. 6*d*.
Children the ſame.
13. Men from 3*s*. to 7*s*.
Neither women or children.

Theſe branches of manufacture work both for exportation and home conſumption: Many low priced goods they make for *North America*, and many fine ones for the *Weſt Indies*. The whole buſineſs was exceed-

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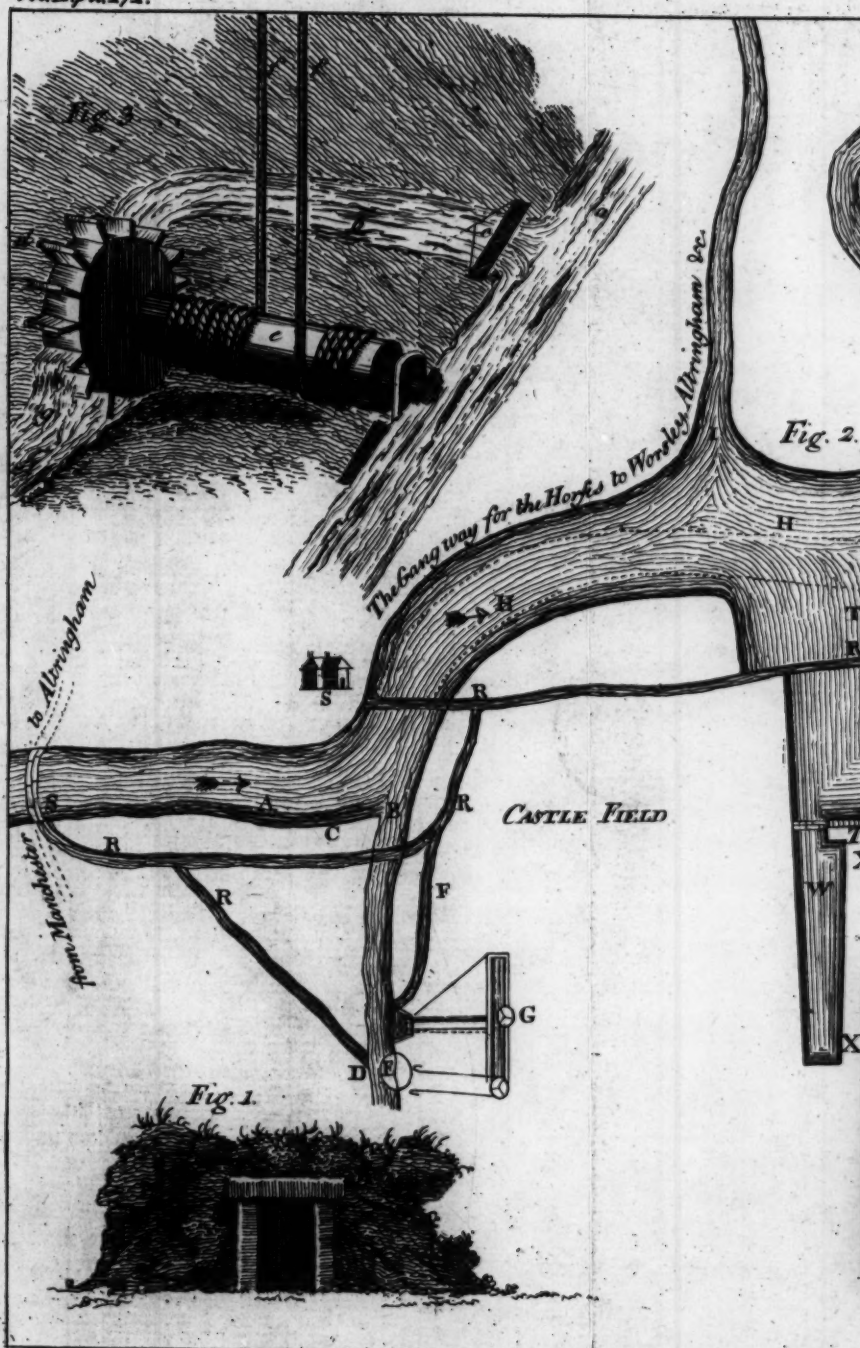
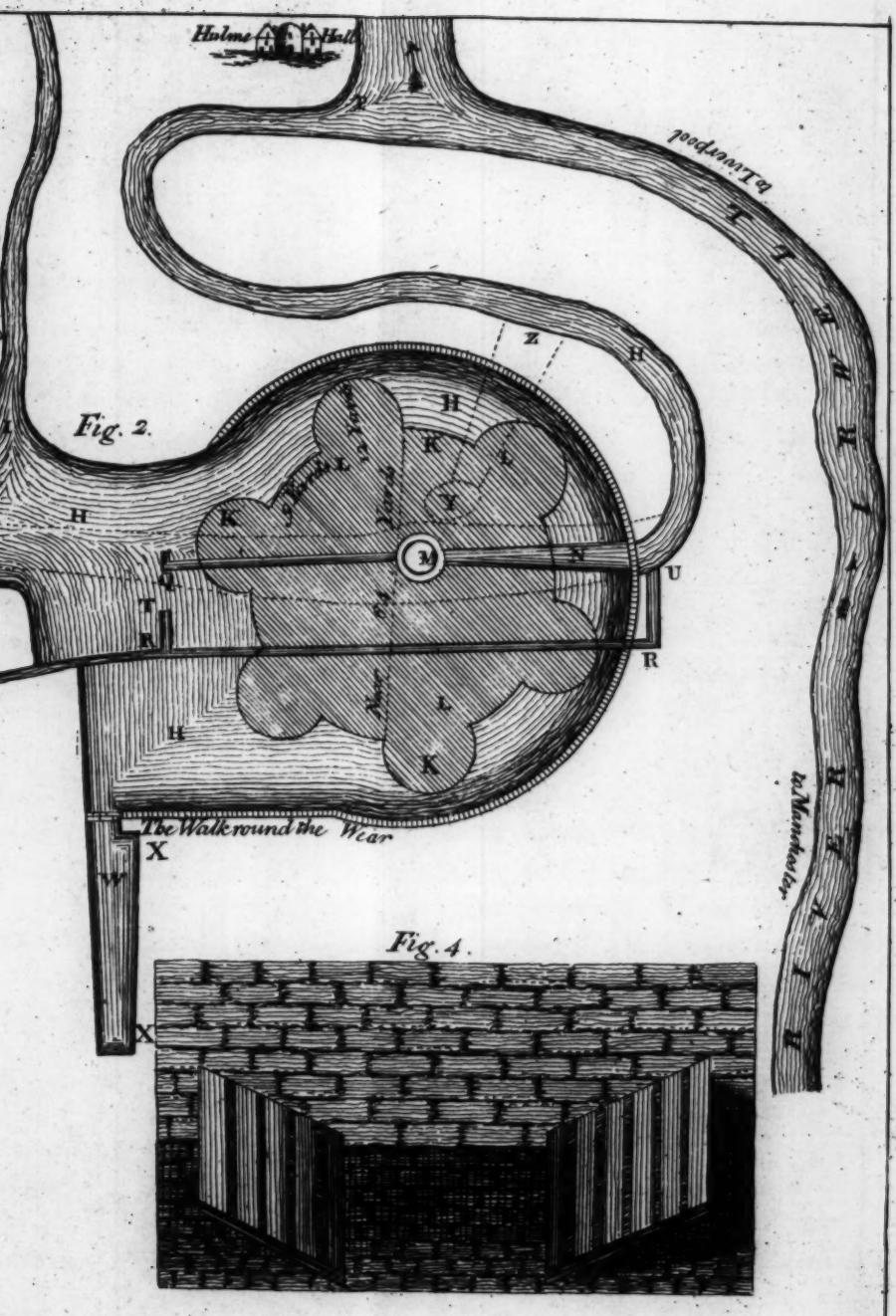


Fig. 3
Fig. 2.
The Gang way for the Horses to Worsley, Altringham &c.
to Altringham
from Manchester
CASTLE FIELD
Fig. 1.


Hulme Hall
to Liverpool
to Manchester
Fig. 2.
Fig. 4.
The Walk round the Wear
Z
H
K
L
Y
M
N
U
R
T
X
W

exceedingly briſk during the war, and very bad after the peace; but now are pretty good again, though not equal to what they were during the war. All the revolutions of late in the *North American* affairs are felt ſeverely by this branch. It was never known in this branch that poor people applied for work but could not get it, except in the ſtagnation cauſed by the ſtamp act.

I enquired the effects of high or low prices of proviſions, and found that in the former the manufacturers were induſtrious, and their families eaſy and happy; but that in times of low prices the latter ſtarved; for half the time of the father was ſpent at the ale-houſe. That both for the good of the maſters, and the working people, high prices were far more advantageous than low ones: And the higheſt that were ever known much better than the loweſt.

All in general may conſtantly have work that will: And the employment is very regular: The maſter manufacturers not ſtaying for orders before the people are ſet to work, but keep, on the contrary, a great many hands in pay, in expectation of the ſpring orders.

The principal ſubdiviſions of the check branch are the following.

N°. 1. Handkerchiefs.
2. Bed ticking.
3. Cotton hollands.
4. Gowns.
5. Furniture checks.
6. Silk and cotton ginghams
7. Souſees.
8. Damaſcus's.
9. *African* goods, in imitation of the *Eaſt Indian.*

Theſe branches employ both men, women, and children; their earnings as follow.

N°. 1. Men 7*s.*
Women 7*s.*

N°. 1. Children 2*s.* to 5*s.*
2. Men 6*s.* to 10*s.*
Neither women or children.
3. Men 7*s.*
Women 7*s.*
Children a few, 2*s.* to 5*s.*
4. Men 8*s.*
Neither women or children.
5. Men 7*s.*
Women 7*s.*
No children.
6. Men 7*s.* 6*d.*
Neither women or children.
7. Men 7*s.* 6*d.*
Neither women or children.
8. Men 7*s.* 6*d.*
Neither women or children.
9. Men from 6*s.* to 9
Women the ſame.
No children.

Moſt of the articles have many preparers; among others,

Dyers at 7*s.* 6*d.*
Bleachers 6*s.* 6*d.*
Finiſhers 7*s.* 6*d.*

The check branch, like the fuſtian, works both for exportation and home conſumption, but vaſtly more for the former than the latter. During the war the demand was extremely briſk; very dull upon the peace, but lately has ariſen greatly, though not equal to the war; and the interruptions cauſed by the convulſions in *America*, very ſeverely felt by every workman in this branch: None ever offered for work but they at once had it, except upon the regulations of the colonies cutting off their trade with the *Spaniards*, and the ſtamp act. The laſt advices received from *America* have had a ſimilar effect, for many hands were paid off in conſequence of them.

In

In the hat branch the principal ſub-diviſions are,

1. Preparers.
2. Makers.
3. Finiſhers.
4. Liners.
5. Trimmers.

They employ both men, women, and children, whoſe earnings are ſomewhat various.

N°. 1. No men.
Women, 3*s*. 6*d*. to 7*s*.
No children.

2. Men 7*s*. 6*d*.
No women.
Children, 2*s*. 6*d* to 6*s*.

3. Men 12*s*.
No women.
Children 7*s*. 6*d*.

4. No men.
Women 4*s*. to 7*s*. 6*d*.
Children 2*s*. 6*d* to 6*s*.

5. No men.
Women 4*s*. to 7*s*. 6*d*.
Children 2*s*. 6*d*. to 6*s*.

This branch works chiefly for exportation; during the war it was ſurprizingly briſk; after the peace quite low; lately it has been middling.

In the branch of ſmall wares are numerous little articles, but the earnings in general run as follow:

Men from 5*s*. to 12*s*.
Women from 2*s*. 6*d*. to 7*s*.
Children from 1*s*. 6*d*. to 6*s*.

The number of ſpinners employed in and about *Manchester* is immenſe; they reckon 30,000 ſouls in that town; and 50,000 manufacturers employed near it.

Cotton ſpinners earn,

Women 2*s*. to 5*s*.
Girls from ſix to twelve years, 1*s*. to 1*s*. 6*d*.

In general all theſe branches find, that their beſt friend is high prices of proviſions: I was particular in

my enquiries on this head, and found the ſentiment univerſal: The manufacturers themſelves, as well as their families, are in ſuch times better cloathed, better fed, happier, and in eaſier circumſtances than when prices are low; for at ſuch times they never worked ſix days in a week; numbers not five, nor even four; the idle time ſpent at alehouſes, or at receptacles of low diverſion; the remainder of their time of little value; for it is a known fact, that a man who ſticks to his loom regularly, will perform his work much better, and do more of it, than one who idles away half his time, and eſpecially in drunkenneſs.

The maſter manufacturers of *Mancheſter* wiſh that prices might always be high enough to enforce a general induſtry; to keep the hands employed ſix days for a week's work; as they find that even one idle day, in the chance of its being a drunken one, damages all the other five, or rather the work of them. But at the ſame time they are ſenſible, that proviſions may be too high, and that the poor may ſuffer in ſpite of the utmoſt induſtry; the line of ſeparation is too delicate to attempt the drawing: but it is well known by every maſter manufacturer at *Mancheſter*, that the workmen who are induſtrious, rather more ſo than the common run of their brethren, have never been in want in the higheſt of the late high prices. Large families in this place are no incumbrance; all are ſet to work.

America takes three-fourths of all the manufactures of *Mancheſter*.

I am obliged to Mr. *Archibald Bell*, of *St. Ann's Square*, and Mr. *Hamilton*, two of the principal manufacturers in the town, the firſt in the fuſtian branch, and the latter in the check, for the heads of the preceding intelligence. Had I been fortunate enough to meet with gentlemen equally knowing, and obliging, at many other manufacturing towns, I ſhould have been

been able to give a much better account of them; but the ſucceſs of ſuch undertakings as this Tour, muſt depend, in a good meaſure, on the people one meets with.

To-morrows begins with the Duke of *Bridgwater*, I ſhall therefore conclude this long epiſtle, by aſſuring you, that I ſhall ever remain, *&c. &c.*

LETTER XX.

THE original deſign of the Duke of *Bridgwater*, was to cut a canal from *Worſley*, an eſtate of his Grace's, abounding with coal-mines, to *Mancheſter*, for the eaſy conveyance of his coals to ſo conſiderable a market; and, in 1758-9, an Act of Parliament for that purpoſe was obtained. The courſe of the canal preſcribed by this act, was afterwards varied by the ſame authority, and the Duke further enabled greatly to extend his plan; for he now determined, and with uncommon ſpirit, to make his canal branch not only from *Worſley* to *Mancheſter*, but alſo from a part of the canal between both, to *Stockport* and *Liverpool*. The idea was a noble one, and ranks this ſpirited young nobleman with the moſt uſeful genius's of this or any age. But the execution of ſo great a plan teemed with difficulties that required a perpetual exertion of abilities fertile in reſources.

The firſt point in viewing this navigation, is to ſend from *Mancheſter* to *Worſley*, to ſpeak for a boat, to carry your party the whole tour: (By the bye, it is a ſtrange affair that the town of *Mancheſter* does not poſſeſs a boat for the accommodation of its own inhabitants, and ſtrangers who come to ſee it: For want of one, you may very probably wait a day or two:) And in the mean time you may employ yourſelf in viewing the works at *Mancheſter:* This was my plan. And it will not be amiſs if you aſk for Mr. *Mac-ſomething*,—*Maclean*, I think; the principal man that delivers the coals: He is a ſenſible, intelligent fellow, and will ſhew and explain every thing here.

The head of the navigation forms two terminations, marked A and B, in the annexed plan, Plate IV;

IV. Fig. 2. The firſt is, a common wharf for the landing of coals out of large barges, for the ſupply of carts and waggons. The ſecond is a ſubterraneous canal, arched over, into which long but narrow boats enter, being of a conſtruction fitted for a peculiar purpoſe elſewhere. This ſubterraneous paſſage extends from C to D.

At E, in the roof of the arch turned over this water, is a well, bricked like common ones, which is ſunk from the ground above; (*N. B.* It is much higher than the level of the water, being ſomewhat of a hill;) upon which, and near the mouth of this well, is erected a crane of a new conſtruction, which turning upon a pivot, is brought at pleaſure over the well, and draws up the coals. G.

The boats are filled with ſquare boxes, fitted in exactly; theſe are filled with coals, (each contains eight hundred weight) at the mine, for the convenience of being eaſily landed through this well; they therefore enter the ſubterraneous canal, and move on, until they come under the well; there they ſtop, and the ropes, which are fixed to the crane above, being let down with hooks, at the end are faſtened to the boxes, (which are ironed for that purpoſe) and then drawn up.

The power of this crane is that of a water wheel, contrived in a very ſimple manner—the beſt way of explaining it will be by a little ſketch, Plate IV. Fig. 3. But remark, that I only draw this from idea, the cavern in which the wheels work being under-ground and below the ſurface of the ſubterraneous canal; and all the light I had was that of a farthing candle. I offer it only as an explanation, which may give you a better idea of the manner in which the coals are drawn, than a mere deſcription in words.

a. Is the canal arched over.

b. A little branch of it, or rather a trough, into which the water is let at pleaſure by drawing up the ſliding door *c.*

d. A water wheel, into the cavities of which the water falls out of the trough *b*.

e. A wooden cylinder, to which the ropes are faſtened; turned by the above water wheel, which winds the ropes round it.

ff. The ropes which are faſtened at top to the crane.

g. The channel through which the water that turns the wheel, runs off, marked F in the large plan.

Each boat contains twelve boxes; two men and a boy are employed in the unloading, who are from twenty to forty five minutes about each boat load; this variation is occaſioned by cauſes which will be explained hereafter. When drawn up, the boxes are emptied on a heap for ſale; and then let down again into the boats. This ſubterraneous canal is extended further than the crane, with deſign to erect another upon the ſame principles. At the mouth of it is a door faſtened on hinges at the bottom of the water, which falls or riſes at pleaſure, and when up ſtops the water from entering; a trap-door at the bottom of the ſubterraneous canal may then be opened, and all the water let out for repairing any of the works; it then runs into the channel, *g*

I ſhould, in the next place, remark, that the water marked H, H, H, H, is the river *Medlock*, and I, the Duke's canal; but as it is the firſt and grand principle of Mr. *Brindley*'s plan, with all artificial navigations, never to let the water of any brook or river intermix with that of the canal, unleſs to ſupply the requiſite quantity; ſome peculiar contrivance was neceſſary to prevent the canal, in this junction with the river, from being affected by its riſing or falling with floods, *&c*. For this purpoſe, the *wear* was executed, which is minuted in the annexed plan, marked K: it is a hexagon, of 366 yards circumference.

The old courſe of the *Medlock* is marked out by the lines dotted thus:

. . . . . .

. . . . . .

Inſtead

Inſtead of permitting it to continue in that courſe, it was enlarged into the ſize it now appears in the plan, the circular end of which is all raiſed on maſonry. The outward line of the wear, K, K, K, regulates the height of water in the canal; the higher that edge is, the higher is the water. The river *Medlock*, thus enlarged, falls fifteen inches over that edge of maſonry, into a freſh ſurface of water, marked L, L, L; this is likewiſe all raiſed of ſtone work; near the center of it is a well M of eleven yards diameter, down which the whole river falls ſeveral yards depth. It is received at bottom in a ſubterraneous paſſage, marked N, N, and flows out at O, where it appears a common river, falling into the *Irwell*, at P.

The ſubterraneous paſſage N, was made of that length, for a very material reaſon; at Q, is a communication between the end of the paſſage and the ſurface of the water above, in the nature of a ſmaller well, but the mouth plugged up; this is made with deſign to clear the paſſage of all mud or rubbiſh that might accumulate in time at the bottom of the well M, by drawing the plug, and letting down a heavy fall of water, to drive out ſuch rubbiſh at the mouth O

The reaſon why the wear was made of this form, was to command a greater line of extent, within a ſmaller general ſpace than if it was a plain circle, ſquare, or other ſimple form. The circumference is 366 yards, which was neceſſary for the quantity of water to be carried off; now a circle of that circumference could not be contained within the outward bounds of the enlarged river, and at the ſame time leave ſpace enough for a body of water around it.

The lines in the plan, marked R, R, denote a ſubterraneous paſſage, to drain off all ſuperfluous water at ſome houſes and warehouſes at S, S, and alſo from the above-mentioned one at F At T is a well and plug, as before deſcribed at Q, for the ſame purpoſe of

of cleanſing the paſſage from mud and rubbiſh. The water thus collected flows into the river *Medlock* at U.

The general deſign of theſe works is, undoubtedly, great; the whole plan ſhews a capacity and extent of mind which foreſees difficulties, and invents a remedy before the evil exiſts. The connection and dependence of the parts on each other are happily imagined, and all exerted in concert, to command, by every means, the wiſhed for ſucceſs: The genius of the engineer deſerved it; but the idea is more beautiful in ſpeculation than uſeful in practice; at leaſt it appears ſo to me: But I ſhould apologize for criticiſing works of ſo noble a tendency, and ſo excellently invented; excuſe my being ſo free as to expreſs the idea I have of the defects of theſe works; aſſuring you that I venerate, no leſs than the warmeſt of his admirers, the maſterly genius that planned them.

The grand deſign of the wear was to preſerve the canal free from the influence of floods, *&c.* It was expected, that in the moſt boiſterous times, in common rivers, this would always be ſmooth, and free from every inequality. But the event has turned out otherwiſe. The whole ſurface has more than once been totally overflowed, the hexagon, well, and all, one general flood, and the outward mound rounded of earth, to confine the water, every where overflowed by it, conſequently the canal received a much larger portion of water than ever Mr. *Brindley* deſigned it ſhould, and the inconveniencies of an unreſtrained tide either happened, or might have done. But the wear was confeſſedly found unequal to its purpoſe, which occaſioned the making the baſon, marked W, into which the water runs in floods, and over-flows a regular bank made for that purpoſe, X, X. But this reſource has been ſince found inſufficient, and not only a ſecond one of the ſame kind, but alſo a general lowering of the mound of earth around the waters of the *Medlock*, incloſing the wear, are

now

now in ſpeculation. Theſe circumſtances prove ſufficiently, that this elaborate and moſt coſtly work is nearly uſeleſs.

A very ſmall addition of expence in the erection would have prevented all theſe inconveniencies. Had the central well been twice as large, or of a more fit proportion to the contingent body of water, and the correſponding caverns the ſame, all the enſuing difficulties would have been prevented.

But when the wear was found unequal to the end propoſed, the ſhifts made uſe of to remedy it, ſuch as the baſon W, and the deſigned lowering of the banks, *&c.* all appear, in my humble opinion, inadequate to the purpoſe, and by no means conſiſtent with the former plan; they are little better than letting the water take its natural courſe; which one would apprehend the worſt of all courſes, from the vaſt expence at which an artificial one was made. I ſhould ſuppoſe, a new cavern and well would have been more conſiſtent with the firſt deſign, and have anſwered the wiſhed for end in a more ſure and regular manner: and if very great floods (ſuch as never yet happened) are to be guarded againſt, the new cavern, or ſubterrane, might have been large enough, occaſionally, to admit the water diſcharged by more than one well; on which plan ſeveral might be made to be kept plugged, like the forcing ones at Q and T, and to be opened only in floods. Upon this principle, ſuch additions might be made at Y and Z; the dotted lines there, mark a new channel into the *Medlock*, and a ſubterrane to another well.

As the depth of water upon L is only fifteen inches, it certainly would be no difficult matter to effect this addition; the water might eaſily be fenced out by maſonry, around a ſpace to work in, and the paſſage might be carried on, and arched under ground.

Another point, in which theſe works fell ſhort of expectation, is the effect of the ſubterraneous drains; it was imagined, that the ſuperfluous water through thoſe

thoſe drains, would, at all times, freely flow into the *Medlock* at U; but inſtead of that, the water of the *Medlock* as often flows into the drain, which has very bad conſequences, for it totally counteracts the very principles of a drain, and likewiſe flows back ſo ſtrongly upon the water-wheel which draws up the coals through the well E, that the power of the wheel is greatly impeded, inſomuch that the work of drawing up the coals, which can, at very low water, be done at the rate of a boat load in twenty or twenty-five minutes, takes forty-five when the water is high: or, in other words, encreaſes the labour fifty *per cent.* This evil appears to be cauſed by the ſubterraneous paſſages being ſunk too deep, by which means the mouth U is too much commanded by the waters of the *Medlock.*

Having taken this view of the works in *Caſtle-field*, we next took poſſeſſion of the pleaſure boat we had before ſpoke for, and ſteered for *Worſley.* The firſt objects we met with, were two wears more at *Cornbroke*, formed on the ſame principles as that in the *Caſtle-field*, ſwallowing up rivulets in central wells, which convey the water in ſubterraneous paſſages under the canal, and permit it to riſe again on the other ſide, and flow on in its uſual courſe.

Paſſing on, the canal runs chiefly along the ſides of natural banks; which courſe was very judiciouſly choſe for the convenience of poſſeſſing not only one bank perfectly firm and ſecure, but plenty of earth ready for making the other. Juſt before we came to *Throſtle-neſt Bridge*, I obſerved a projecting piece of maſonry in the canal, which, on enquiry, I found to be the caſe of a canal door, for I know not what other name to give it: It is upon the ſame principle as that at the mouth of the ſubterranean paſſage, in which the boats unload in *Caſtle-field.* The contrivance and deſign of theſe doors are admirable, but as many of them will occur in this tour of the navigation,

gation, it will not be improper to explain the conſtruction of them here.

In the ſketch, Plate IV. Fig. 4, A repreſents one ſide of the channel of the canal, being walled; B, is the floor of it; C, C, are two doors, fixed in the poſition they appear in, and turning on hinges at bottom, *d*, *d*, *d*, *d*. The doors have a freedom of riſing, but cannot fall lower; now it is obvious from this, that in caſe the bank A, breaks, and the water ruſhes out of the breach, the decreaſe of preſſure on the doors C, C, will raiſe them up at once to *e*, *e*, (where they will be fixed againſt projecting irons made for that purpoſe,) as the water at F, F, will then naturally force them up. The conſequence of which is, the loſing no more than the water contained between the doors; and if the bank ſhould break at F, yet the quantity of water loſt would be but trifling. I have thrown the doors near one another, for your fully underſtanding the principle upon which they are deſigned; but in the canal they are at a diſtance from each other in divers places. The ſtopping the loſs of water is of great conſequence, not only to leſſen the miſchief of the mere loſs, in preventing the navigation going forward, but alſo in leſſening greatly the damage the country would ſuffer from being overflowed; a point of great importance.

Next we came to *Leiceſter Bridge*, (under it another canal door,) and paſſing through it I obſerved, on the left hand, a ſmall water fall, which is the mouth of a main drain made by the farmer, with ſmaller ones that lead into it, all covered: The excellent effect of which is here ſtrikingly viſible; for the land on that ſide was perfectly dry, but on the other ſide the canal very wet, though not much rain had fallen.

At *Weather-Meetings* we paſſed another canal door.

Paſſing the mouth of the canal that leads to *Altringham*, *&c.* and under *Taylor's Bridge*, you catch a view of *Mars Bridge* in a pretty ſituation, the ſurrounding

rounding country fine; you look over it, ſcattered with ſeats, houſes, *&c.* in a pleaſing manner. This part of the canal runs through *Trafford Moſs*, which is a peat earth black moor: It is great pity that the noble advantage of a water carriage through the heart of this moor, to ſo fine a market as *Mancheſter*, does not induce the owners to cultivate this waſte tract, which might, beyond all doubt, be applied to numerous uſes, far more profitable than yielding peat in a country ſo abounding with coals.

The next object that preſents itſelf, is the work at *Barton Bridge*, which is one of the principal undertakings in the whole navigation, and a wondrous one it certainly is. The canal is here, in its uſual breadth, carried (*Roman* aqueduct like) on arches, over the large and navigable river *Irwell*.

The aqueduct is two hundred yards long, and thirty-ſix feet wide; it croſſes the *Irwell* on three large arches, the center of which ſpans ſixty-three feet; and is carried with amazing labour through a valley, filled up to receive it. The view, Plate V, which I took, ſtanding on *Barton Bridge*, will better explain this ſurprizing work.

A. Is the river *Irwell*.

B. A lock-gate, through which the barges are let that navigate the river, on account of the obſtruction of the caſcade, C.

D. D. A gang-way from one ſide to the other.

E. The canal.

F. The pleaſure-boat, drawn by one horſe.

The effect of coming at once on to *Barton Bridge*, and looking *down* upon a large river, with barges of great burthen ſailing on it; and *up* to another river, hung in the air, with barges towing along it, form altogether a ſcenery ſomewhat like enchantment, and exhibit at once a view that muſt give you an idea of prodigious labour; for the canal is here not only carried over the *Irwell*, but likewiſe acroſs a large valley, being banked up on each ſide in a ſurprizing manner,

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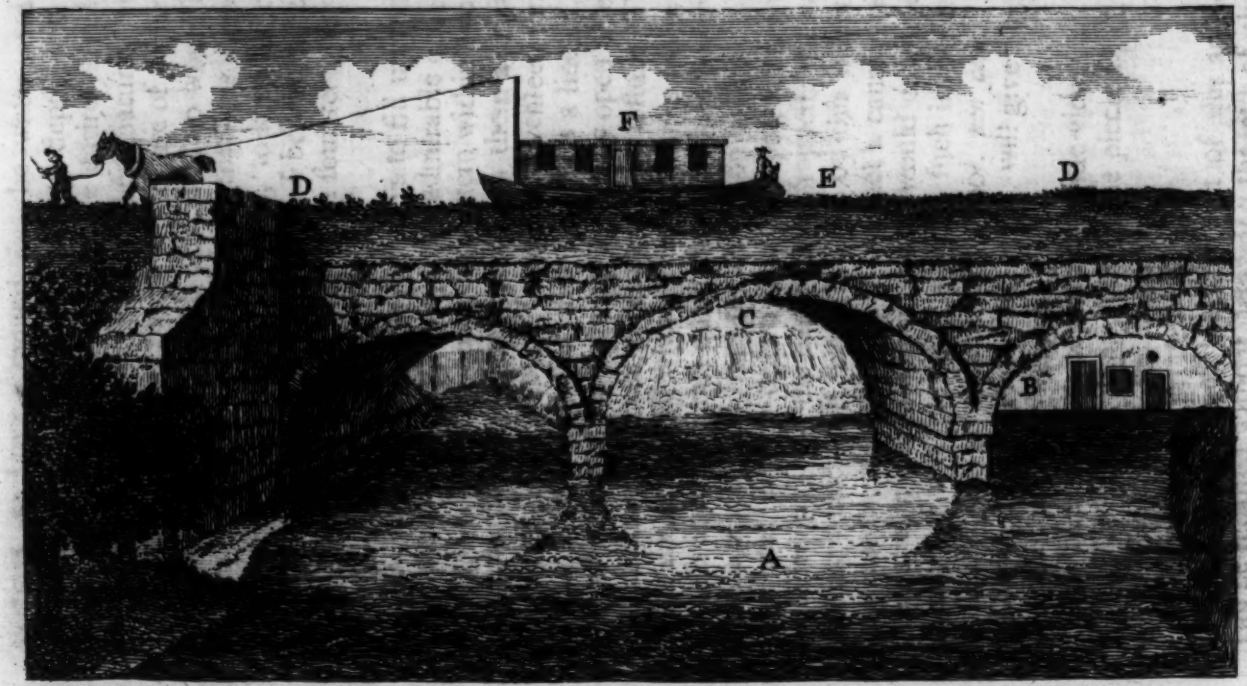

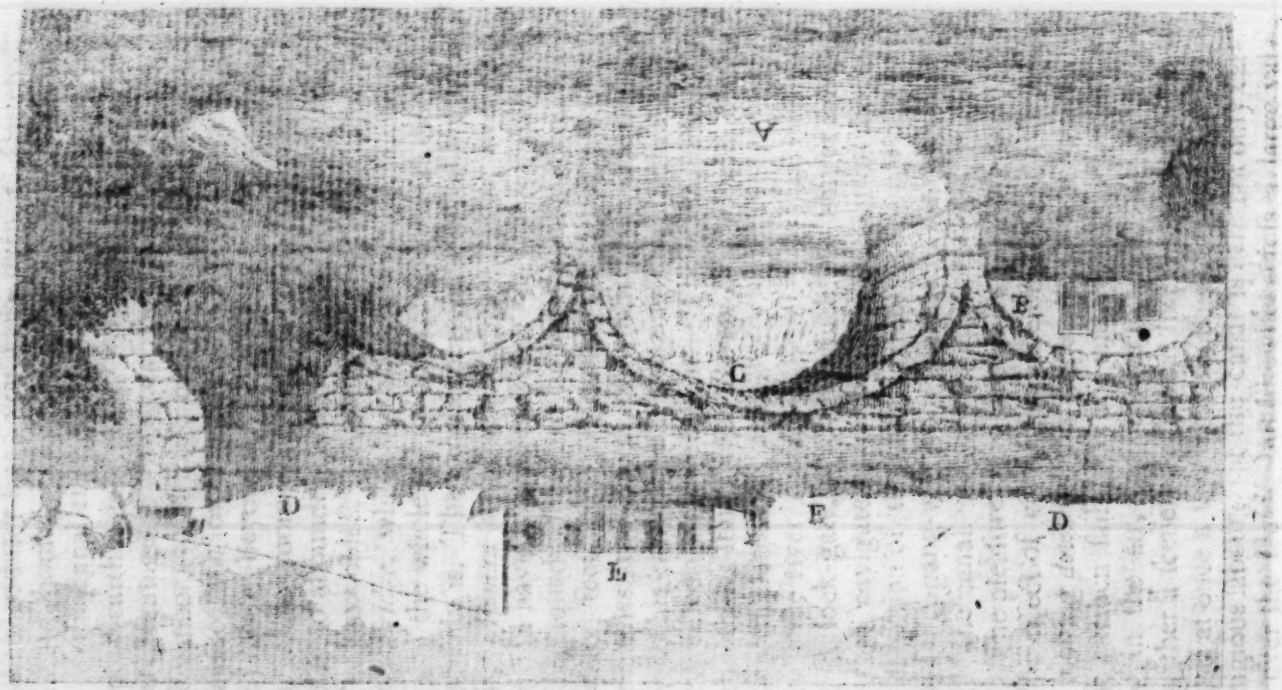
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manner, to form a mound for the water, and the channel alſo filled up to the uſual depth, that the banks, at a place where they are entirely artificial, and conſequently weaker than where natural, might not be endangered by the great preſſure of ſo large a body of water as the depth here filled up would have contained: And I ſhould remark, that it is a maxim throughout this whole navigation, to keep the canal of an equal depth every where: I believe it ſcarce ever varies above ſix inches; from four feet, to four feet ſix inches.

The method Mr. *Brindley* takes to fill up a channel, where too deep, is a moſt admirable one: He builds two very long boats, fixes them within two feet of each other, and then erects upon them a triangular trough, large enough to contain ſeventeen tons of earth: The bottom of this trough is a line of trap doors, which, upon drawing a pin, fly open at once, and diſcharge the whole burthen in an inſtant. Theſe boats are filled any where from the banks where the earth is in ſuperfluous quantities, by wheel-barrowing it on a plank, laid from the ſhore, on to the trough: The boat is then drawn over the ſpot, which is to be filled up, and the earth there dropped: It is aſtoniſhing what a vaſt ſaving is made by this invention: In common management to conduct a canal *level* acroſs a valley, and without locks, would conſume the revenue of a whole country; but ſuch inventions as theſe eaſe the expence at leaſt 5000*l. per cent.* The following ſketch, Plate VIII. Fig. 1. will give a clearer idea of theſe boat-waggons.

A. The boat that appears on a ſide view.

B. The trough, ſupported by the pieces C, C, C.

D. The ends of the boats.

E. That of the trough.

I ſhould tell you, that any part of this aqueduct can be repaired without damaging the reſt of the canal, or loſing more water than is contained within a ſmall ſpace on each ſide the part decayed; for ſeveral

ral doors, of the ſame nature as thoſe already deſcribed, are fixed in the channel; and alſo trap-doors, or tubes, (if I may ſo call them,) at the bottom, *&c.* of the aqueduct, through which, by drawing a few plugs, the water would preſently be diſcharged into the *Irwell*, and the part to be repaired, laid dry at once; a contrivance, which is undoubtedly of vaſt conſequence.

But there are other works at *Barton* which claim our attention beſides the croſſing the river. Two roads here came athwart the navigation, and happening in this valley where the canal is ſo much higher than the level of the country, to have built bridges would have coſt immenſe ſums, as the riſe would have required them half as long as that at *Weſtminſter*. The method, therefore, taken by Mr *Brindley* was to ſink the road gradually on both ſides, and turning a large arch, to carry the canal over the roads as well as the river; and this is practiſed with both. So that in going under it you ſink gradually on one ſide and riſe in the ſame manner on the other. The view, Plate VI, will explain it clearly.

A. Is the canal.

B. The wall that ſupports the arch.

C. The road.

Leaving this ſcene of wonders we paſſed on, and coming to *Moreton Bridge*, we preſently ſaw a freſh inſtance of attention, to keep the water of the canal unmixed by that even of the ſmalleſt ſtream, for here an arch is turned under the canal for a little brook to run through.

From hence towards the brick kiln on the right, and paſt it, I obſerved ſome lands lying very low, beneath the level of the canal; in wet ſeaſons they muſt be much damaged by the water of the navigation.

From hence you have a fine proſpect of the Duke's houſe at *Worſley*, and the lands adjoining.

A little

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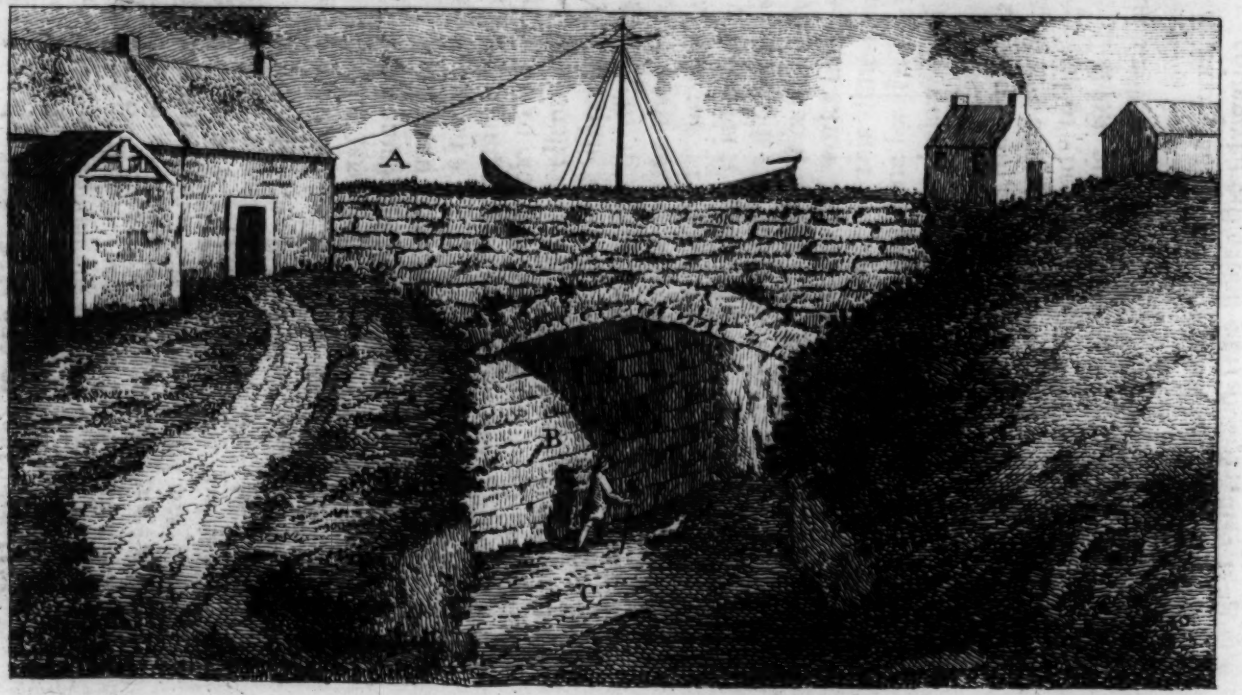

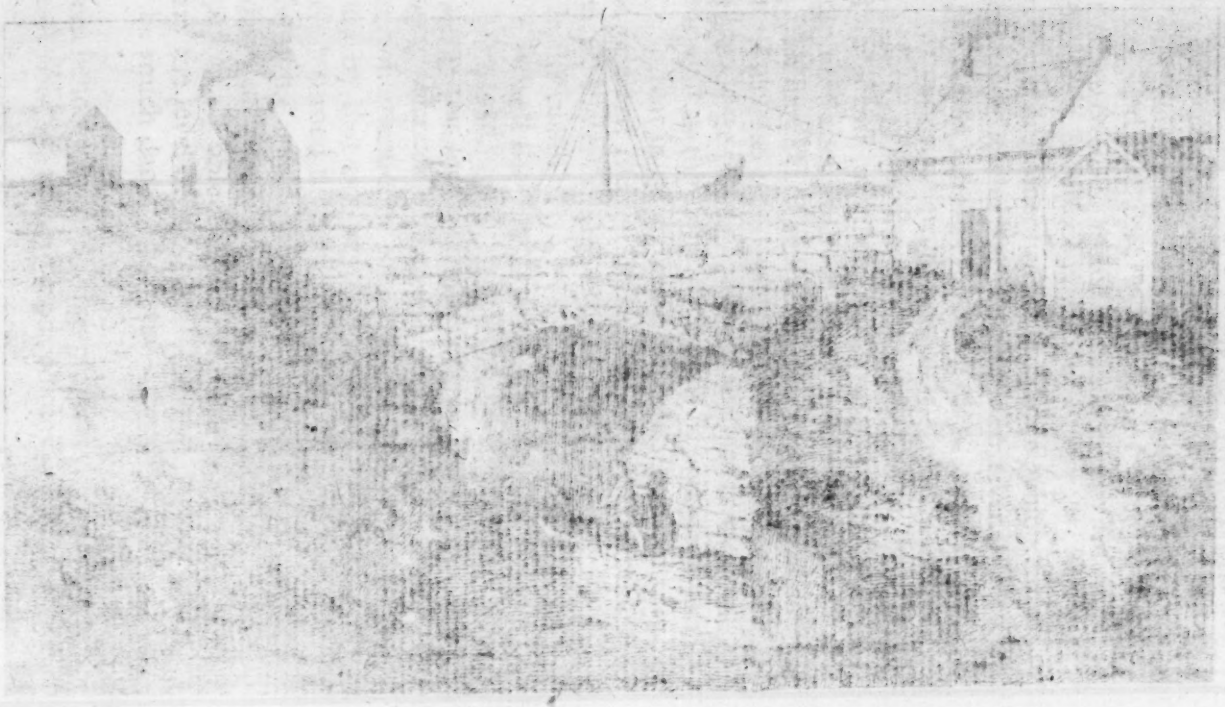

A little further another brook is carried under the canal, by means of an arch turned for that purpoſe.

Next we came to one of the ſpots where the lime was found, which proved ſo noble an acquiſition to the Duke. In carrying on the navigation a vaſt quantity of maſonry was neceſſary, in building aquæducts, bridges, warehouſes, wharfs, *&c. &c.* and the want of lime was felt ſeverely; the ſearch that was made for materials to burn into lime, was a long time fruitleſs; at laſt Mr. *Brindley* met with a ſubſtance of a chalky kind, which, like the reſt, he tried; but found (though it was of a lime-ſtone nature) that, for want of adheſion in the parts, it would not make lime. This moſt inventive genius happily fell upon an expedient to remedy this misfortune. He thought of tempering this earth in the nature of brick earth, caſting it in moulds like bricks, and then burning it; and the ſucceſs was anſwerable to his wiſhes: In that ſtate it burnt readily into excellent lime; and this acquiſition was one of the moſt important that could have been made I have heard it aſſerted more than once, that this ſtroke was better than twenty thouſand pounds in the Duke's pocket; but like moſt common aſſertions of the ſame kind, it is probably an exaggeration. However, whether the diſcovery was worth five, ten, or twenty thouſand, it certainly was of noble uſe, and forwarded all the works in an extraordinary manner. The bed of this lime-marle (which I think is the propereſt name for it) lies on the ſides of the canal, about a foot below the ſurface.

Advancing towards *Worſley*, I was much pleaſed to ſee many vaſt heaps of the mud that came out of the canal, mixed up with dung, and ready to lay on to the grounds. The Duke keeps theſe fields in his own hands, and manages them like an excellent huſbandman.

At *Worſley* we paſſed three more canal-doors, and a large ſtream, which runs under the navigation.

Arriving at the head of the works, we were much ſtruck with the excellent and ſpirited appearance of active buſineſs; for the little village of *Worſley* looks like a river-environ of *London:* Here is a very large timber yard, well-ſtowed with all ſorts of wood and timbers for framing buildings, and building boats, barges, and all kinds of floating machines. The boat-builders yard joins, and ſeveral boats, barges, *&c.* are always on the ſtocks. Next to theſe is the ſtone maſon's yard, where lie vaſt piles of ſtones, ready ſquared, for loading barges with, to convey to any part of the navigation where they may be wanted, either for building, or repairing of bridges, aquæducts, wharfs, warehouſes, *&c. &c. &c.* the quarry is juſt by the mouth of the mine, and much is brought out of the mine itſelf, in working for the coals. Thus every part of the whole deſign acts in concert, and yields mutual aſſiſtance, which is the grand art of œconomical management.

The great curioſity at *Worſley* is the tunnel, which is a ſubterraneous canal hewn out of the rock to a great length (near a mile,) and extends into the heart of the coal mines. The view, Plate VII. exhibits the mouth of it, and likewiſe the quarry works around it.

A. The navigation.

B. The mouth of the tunnel, with large doors to open and ſhut.

C. The quarry.

D. A crane of a very curious conſtruction, for heaving the ſtones out of the quarry into the barges.

E. Ropes that keep the crane in its perpendicular poſition.

The water in the tunnel is upon the level of that in the canal, being the ſame, ſo that the boats loaded with coals come out of the very mine itſelf.

The firſt entrance, for 1000 yards, is ſix feet and an half wide, and ſeven feet and an half high, including

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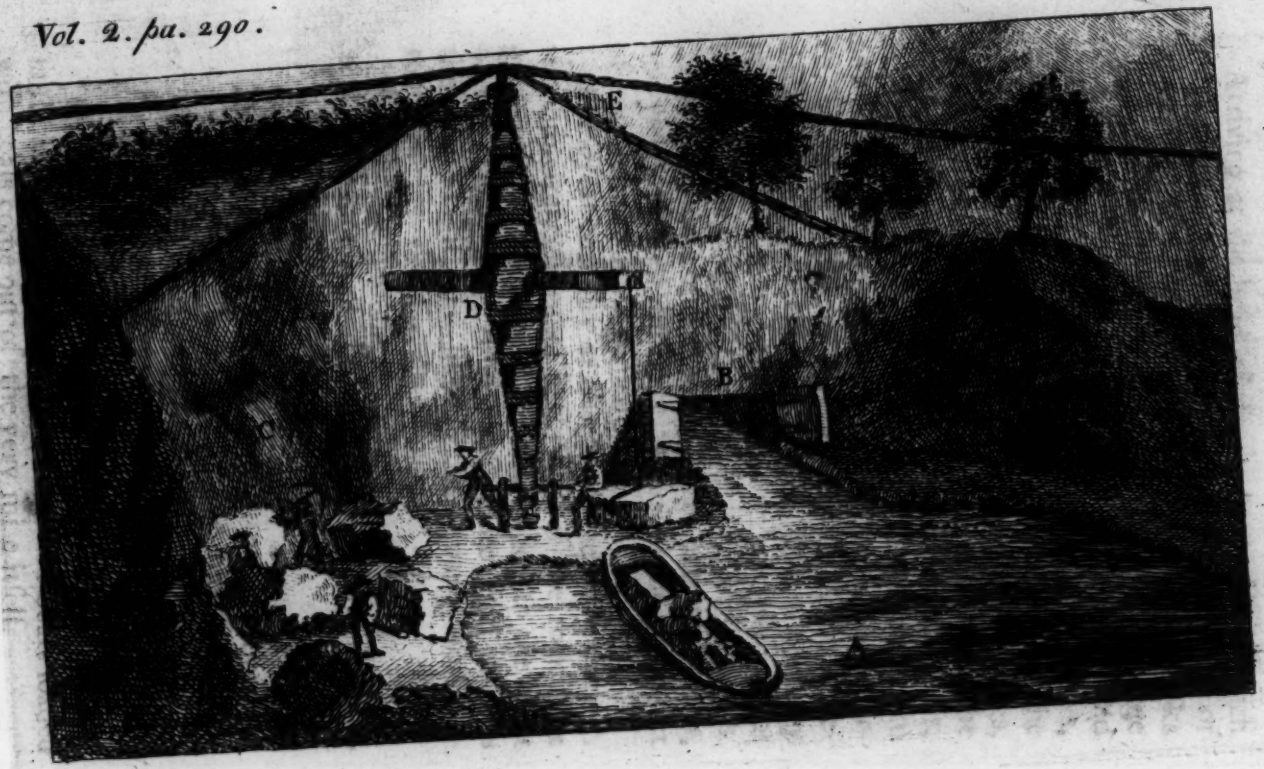


ding the water, which is three feet four inches deep; it is already continued 750 yards further, ten feet wide, and it is ſaid (how true I know not) that it will be carried on at leaſt a mile and a half further. I took ſome time to explore the horrid caverns of theſe mines, and found, on an attentive examination, that the method of conducting the buſineſs of them, was nearly as follows:

The ſeams (or, in theſe mines, rather veins) of coal branch divers ways, ſome are above the tunnel, and ſome below it; as faſt as the coal is got, the ſpace is cleared and arched for a road, to move the coal on: This is done in little four-wheel waggons, which contain 10 *cwt.* of coals, and is puſhed along by a man ſetting his head and hands againſt it (the road being laid on purpoſe for it.) The roads all lead to the tunnel. When the man with the waggon comes over a well (of which there are ſeveral) that is ſunk from the road through the arch of the tunnel, and under which the boats are fixed, he ſtops on a frame work of wood, which turns on pivots, and is ſo contrived, that upon drawing up a part of one end of the waggon, ſome of the coals drop out, and then the waggon is tilted up, and all the reſt follow them, falling into the boat beneath either promiſcuouſly, or directed through a tube to fill a box at a time, at pleaſure, which work is performed almoſt inſtantaneouſly, and the waggon ſent off again for a freſh cargo.

But as the arches (roads) through the mine in many places croſs each other, it would there have been impracticable for a man to puſh ſo great a weight around a turning; to remove which objection, the ſquare of the floor in the croſs of the roads is all of wood, and turns upon a central pivot of iron, ſo that the man ſtopping when the waggon comes exactly on to the ſquare, and turning it till it faces the road he is to go, he then puſhes on without the leaſt interruption.

The coals that ariſe in the branches of the mine *below* the tunnel are drawn up through wells into thoſe *above* it, and then conveyed, like the reſt, in waggons to the boats.

When they are loaded they are linked together in a gang; and for the convenience of drawing them out, there is a rail on each ſide the tunnel, for the perſon who ſtands in the firſt boat to hold with his hands and draw himſelf along; which gives him ſo great a power, that a boy of ſeventeen has drawn out a gang of twenty-one boats loaded, which, at ſeven tons each, is 147 tons. But this is only one inſtance, and out of the common courſe of buſineſs; they commonly bring out a gang at a time, which is four or ſix, and as ſoon as they are out of the tunnel, they are drawn by mules to *Mancheſter*, *&c.*

The tunnel, where it paſſes through earth or coal, is ſurrounded with brick-work, but through the rock it is only hewn out.

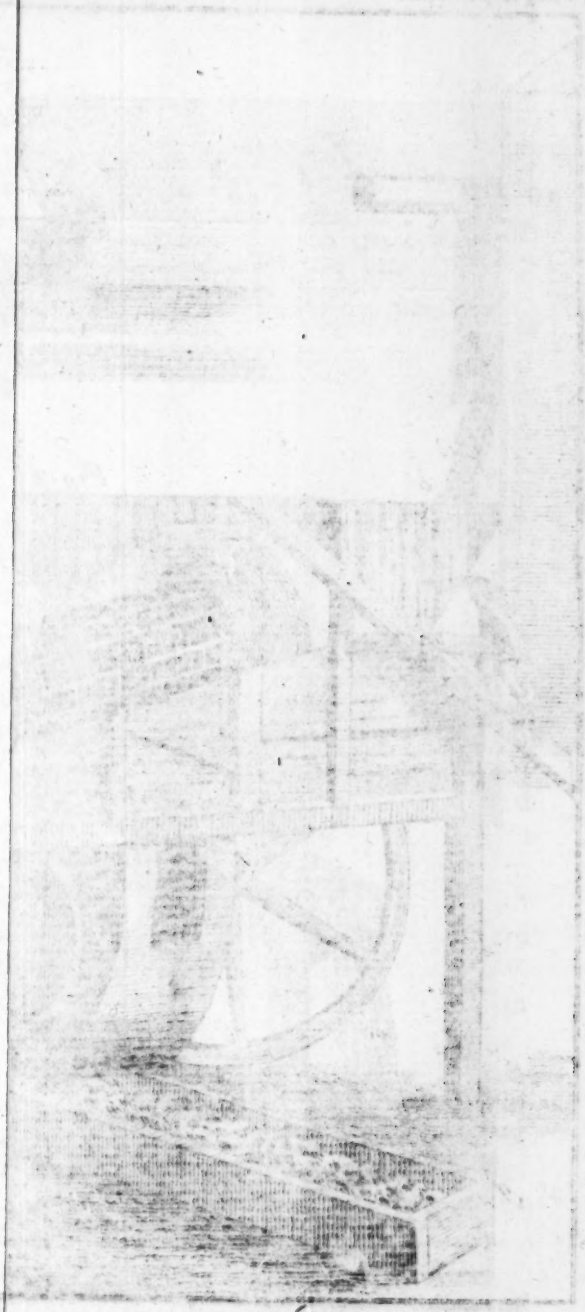
At the diſtance of about a thouſand yards from the mouth, it divides into two, which branch different ways, for the convenience of loading coals in the above compendious manner in every part of the mine; and more branches are in contemplation: It has been aſſerted, that thoſe who go up both paſſages travel therein three miles; but this is an exaggeration.

Every here and there along the tunnel are wells, bricked from it to the top of the hill, for the admiſſion of air, the exhalation of damps, and the letting down men for reparations in caſe of accidents.

I have read of tin tubes for the conveyance of air into this mine, but there is no ſuch thing; the ſhafts, paſſages, and tunnel ſupply it ſufficiently.

As there generally is much ſuperfluous water in coal mines, it was a very beneficial ſcheme to cut this tunnel for draining that water away, and, at the ſame time, for carrying the navigation into the heart of the colliery: Such bold and deciſive ſtrokes are the

fineſt



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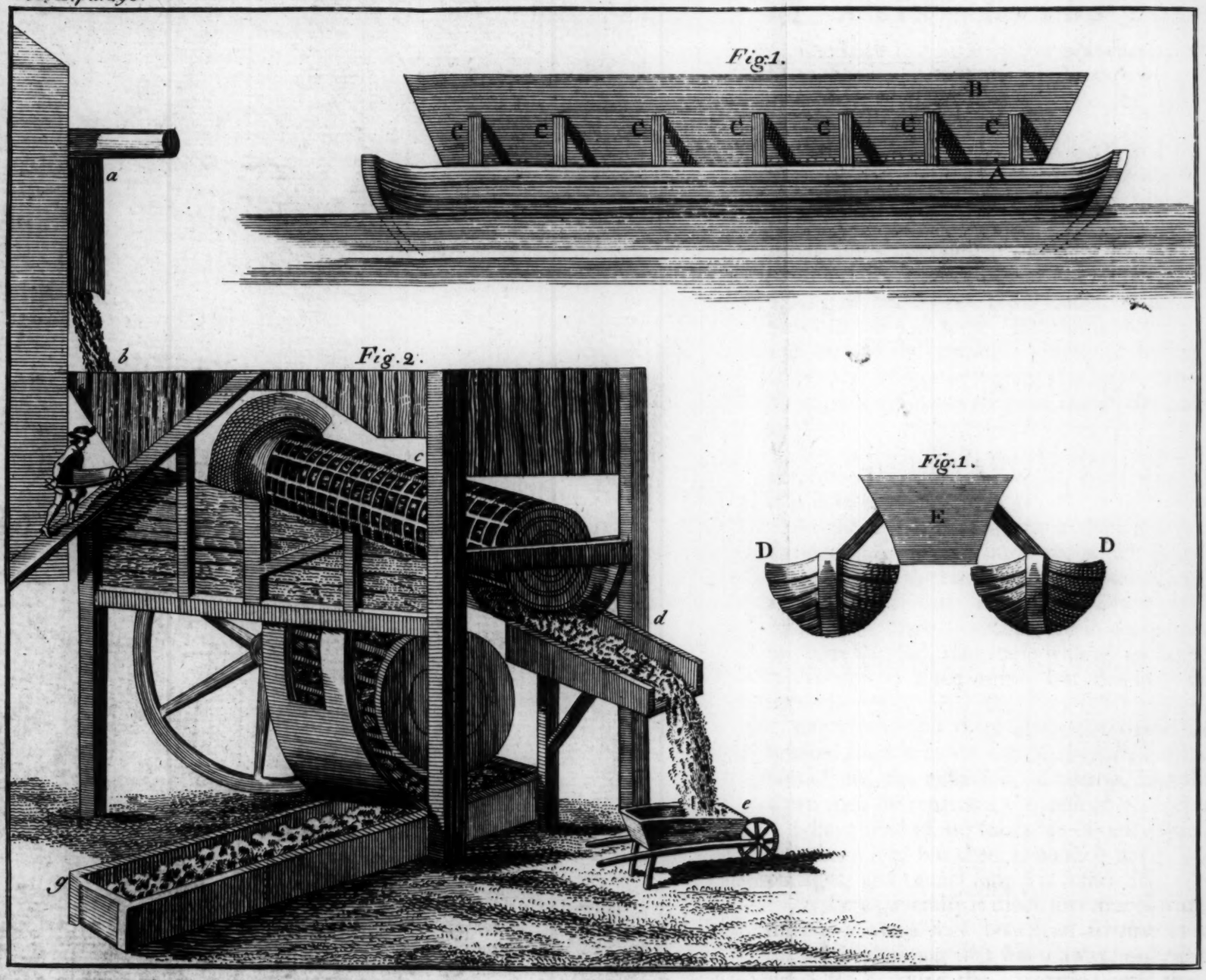

fineſt proofs of inventive genius, of that penetration which ſees into futurity, and prevents obſtructions unthought of by the vulgar mind, merely by foreſeeing them: A man with ſuch ideas moves in a ſphere that is to the reſt of the world imaginary, or at beſt a *terra incognita*

The beſt way of viewing the extent of the mines, is by going down the ſhaft and coming out by the tunnel: And ſometimes you muſt either take this method, (which was my own caſe,) or not ſee it at all; for boats are not always going in, nor to be had for that purpoſe, but you will ſeldom fail of an empty boat within, by which your guide (the hoſtler, I think, of the inn) will convey you out.

Near the head of the canal is another curioſity, very well worth viewing. It is a mill of a new conſtruction, with many powers. The firſt motion is the turning a wheel, twenty-four feet diameter, by a ſmall overſhot ſtream. This wheel works three pair of grinding ſtones for corn, a boulting mill, which diſcharges the meal divided into three ſorts of flour, beſides the ſeparation of the pollard and bran; and theſe works are effected with hogs briſtles, fixed within the wire ſieves. It likewiſe turns a machine for making mortar, which is done by being laid upon a horizontal ſtone, worked by a cogged wheel beneath it; and the horizontal ſtone turns two others that are fixed obliquely, and work by their friction the mortar under them, which is taken off as made, by a man who is ready for the purpoſe.

This little ſtream further turns another machine, of excellent uſe: It is for ſifting the ſand uſed in the buildings, and waſhing out the little ſtones that are in it; which it performs very effectually and expeditiouſly. The ſketch, Plate VIII. Fig. 2. will explain the mechaniſm.

a. Is the tube from which the water iſſues.

b. The hopper, in which the ſand is thrown out of wheel-barrows.

e. Is a wire cylindrical ſieve, into which the ſand falls from the hopper, and which, being turned by the large wheel, ſifts the ſand, which drops through the wires into the wheel *f*, and out of that, after a freſh operation, into the trough *g*, from whence it is taken in ſhovels.

d. Is a trough for conducting the ſtones driven by the water out of the end of the cylinder, into a wheel-barrow *e*, placed to receive them.

b. Is a board, leaned aſlant upon the frame work of the machine, for the men to drive up the wheel-barrows on.

The navigation is carried a mile and half beyond *Worſley*, into the middle of a large bog, called here a moſs, belonging to the Duke, and merely for the uſe of draining it, and conveying manures to improve it: It is greatly to that nobleman's honour to find him attending, and at a conſiderable expence, to matters of huſbandry, in the midſt of undertakings that would alone convey his name with peculiar brilliancy to the lateſt poſterity.

This bog is of large extent, extremely wet, and ſo rotten, that, before it is improved, it will not bear even a man. The Duke begins by cutting ſmall drains, very near each other, which ſoon render the ſurface pretty firm. Then his barges bring the chippings of ſtone, and other rubbiſh, which ariſe in digging the coals, and which are brought out of the mine exactly in the ſame manner, only inſtead of going to market, to be ſold, they are converted into money, in another way, by being brought hither. This rubbiſh is wheel-barrowed out of the barges on boards, on to the land, which is greatly improved by it; the ſurface ſoon becomes ſound, the aquatic ſpontaneous growth diſappears by degrees, better herbage comes, and thus it is converted into profitable paſture, without any paring, burning, or ploughing. Some of the longer ſhivers of the ſtone will not crumble with the froſts; ſuch are picked up, laid in heaps, and

and carried back to the ſtone yard, where they are ſquared for buildings, or converted to other uſes.

As faſt as the bog becomes improved, the canal is extended, for the ſake of going on with the work; and almoſt at the end of it his Grace is building a ſmall houſe, for an overſeer, ſituated upon land which once would not have borne even the men employed now in building on it.

This improvement is of a new kind, and peculiarly uſeful in the neighbourhood of quarries, ſtone maſons yards, mines in rocks, *&c. &c.* In this inſtance it is of noble advantage, for the rubbiſh would be troubleſome at *Worſley*, and expenſive to carry out of the way; ſo that this improvement muſt be conſidered as another *part* of this grand WHOLE, which is ſo admirably connected, and, by itſelf, ſo aſtoniſhingly ſupported.

At *Worſley* land letts from 20*s.* to 3*l. per* acre. Farms riſe from 20*l.* to 100*l.* a year.

The next buſineſs is to view the other branch of the canal, which extends to *Altringham*, *&c.* and for this purpoſe you return to *Mancheſter* to lie, and keep the pleaſure-boat, to be ready at *Caſtle-field* the next morning.

After arriving in the old courſe at the branching off, you firſt come to *Longford bridge*, under which is a canal-door. And juſt by a ſmall circular wear, for the conveyance of a ſtream under the canal, the brook falls into the well, in the nave of the circle, down to an arched paſſage, which conveys it under, and lets it riſe again in its old courſe on the other ſide.

At *Waterford* the canal extends acroſs a long valley, the level being preſerved without locks: The work is here very noble: The banks of earth of a vaſt height and thickneſs, beautifully ſloped, and the whole appearance ſtrikingly great. It here croſſes at the ſame time a large brook more ſubject to floods and a road: Two arches carry it over the ſtream,

and a third over the road. The view, Plate IX. will better explain it.

A. The ſtream.
B. The wall of the aquæduct.
C. The road.
D. The ſloped green bank of the canal.
E. A meadow.

The three arches extend 80 feet. Here are trap-doors, &c. as at *Barton Bridge*, for ſecuring the water of the canal in caſe of a breach, or for repairing the aquæduct.

Further in the ſame valley the navigation is carri d acroſs the river *Merſey*, on one arch of ſeventy feet ſpan.

I ſhould remark, that the canal acroſs this whole valley is of a vaſt breadth, and has rather the appearance of a great navigable river than an artificial canal cut at the expence of a ſingle perſon.

Next it is carried acroſs *Sale Moor:* under the firſt bridge you catch a pleaſing view, through the arches of other bridges, in a line, and at the end a church and ſteeple This part of the navigation, from the lowneſs of the *Moor* below the level of the canal, was pronounced by many to be impracticable, and Mr. *Brindley's ne plus ultra*; but this difficulty was removed by perſeverance and ſpirit; a complete bed was made for the canal, raiſed at bottom as well as the ſides, ſufficient for conducting the water on a level. This was effected by making a vaſt caſe of timber for the whole work: Great piles of deal were fixed as a mound to keep the earth in a proper poſition to form the banks; and when they were raiſed, the piles removed on for anſwering the ſame work again, and the water brought forwards by degrees, to the aſtoniſhment of thoſe who pronounced the work impracticable. It is carried over two brooks here, for which arches are turned.

At *Altringham Bridge*, the Duke has a large warehouſe on the ſide of the canal, ſeveral ſtories high, for

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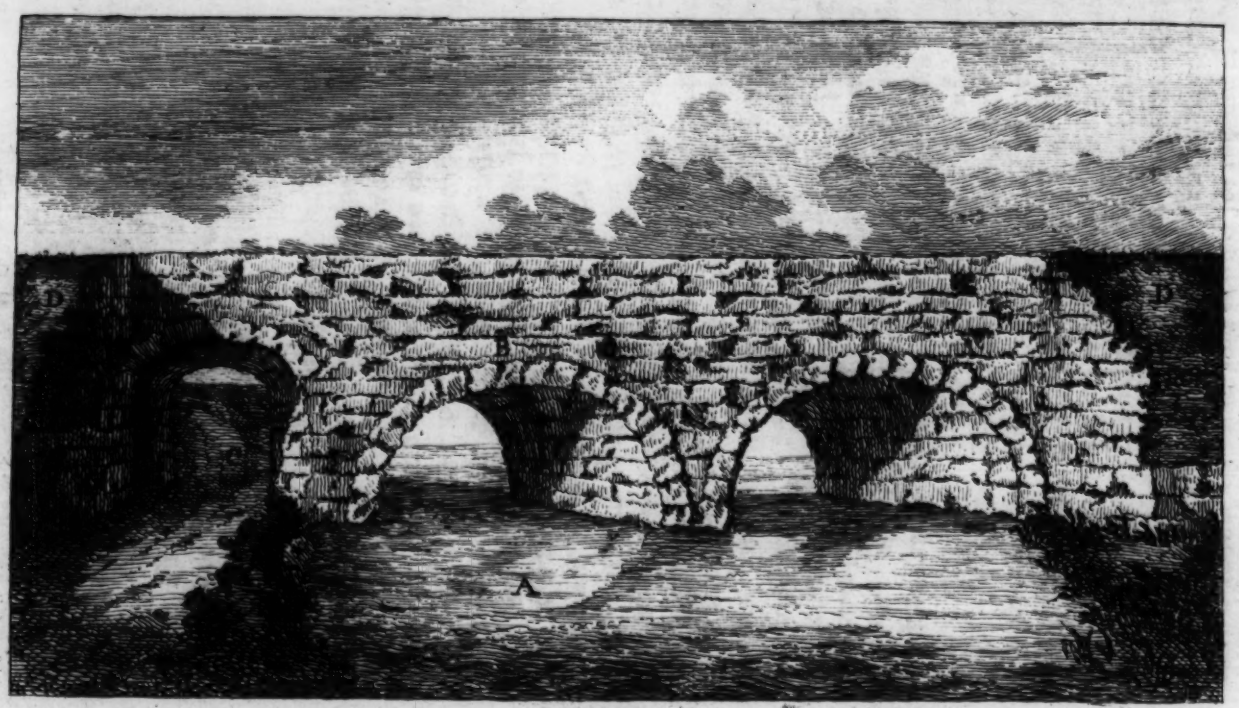


for the convenience of ſtowing and lodging goods, in the trade that is carried on, on this part of the navigation: Alſo a wharf for ſelling coals, with cranes erected for loading and unloading boats: Here, likewiſe, his Grace's people burn charcoal.

Advancing with the canal, we come to *Dunham*, paſſing through a lock conſtructed upon the ſame principle as the canal doors, ſo often mentioned. *Dunham* ſchool is ſeen upon the left; a plain and unornamented, but elegant front; as pleaſing, of the kind, as any one I remember to have been. A little further, we came to the works then executing, which are of the nature of all in this great undertaking: The canal is here carried over two roads, and the river *Bollam*; and a great inequality in the ſurface of the country remedied by a ſyſtem of locks, of which there are eight, within a vaſt frame-work of timbers, in the diſtance of about thirty yards. When finiſhed, and the water navigated, all theſe locks will be paſſed by a gang of barges, in leſs than twenty minutes. The canal croſſes the roads and the river, on vaſt arches, in the ſame manner as already deſcribed and repreſented. The activity and ſpirit with which the workmen carry on their buſineſs, is very pleaſing; carpenters, ſmiths, maſons, labourers, boatmen, *&c.* *&c* are all employed in great numbers, ſo that the works advance with great celerity. Here I obſerved two very large barges, with a houſe built in each, and a chimney in one. This is a floating blackſmith's forge and ſhop, with all ſorts of tools, *&c.* The other is a carpenter's ſhop; theſe are of excellent uſe in following the works as they advance; ſaving all the trouble and expence of repeated erections and removals.

The works are alſo carrying on by near three hundred men, about two miles further; barges have been carried thither by land, and floated for the uſe of the workmen; but both parts of the canal will ſoon join, as the buſineſs goes on with ſo much ſpirit.

Another

Another part of his Grace's deſign, and which he has an act to enable him to execute, is to extend a branch of his canal from *Sale Moor* to *Stockport*, but not yet begun: That place being a town of conſiderable manufacture and trade, further very conſiderable benefits may reaſonably be expected to accrue from the encreaſe of traffic on the canal thereby occaſioned. This intended branch is, like the reſt, marked in the annexed map, Plate X. which delineates the whole country through which the navigation extends.

A, A, A. Is the Duke's navigation finiſhed.

B, B, B. Ditto unfiniſhed.

C, C, C. Courſe of the old navigation.

[] acroſs the canal—The canal-doors.

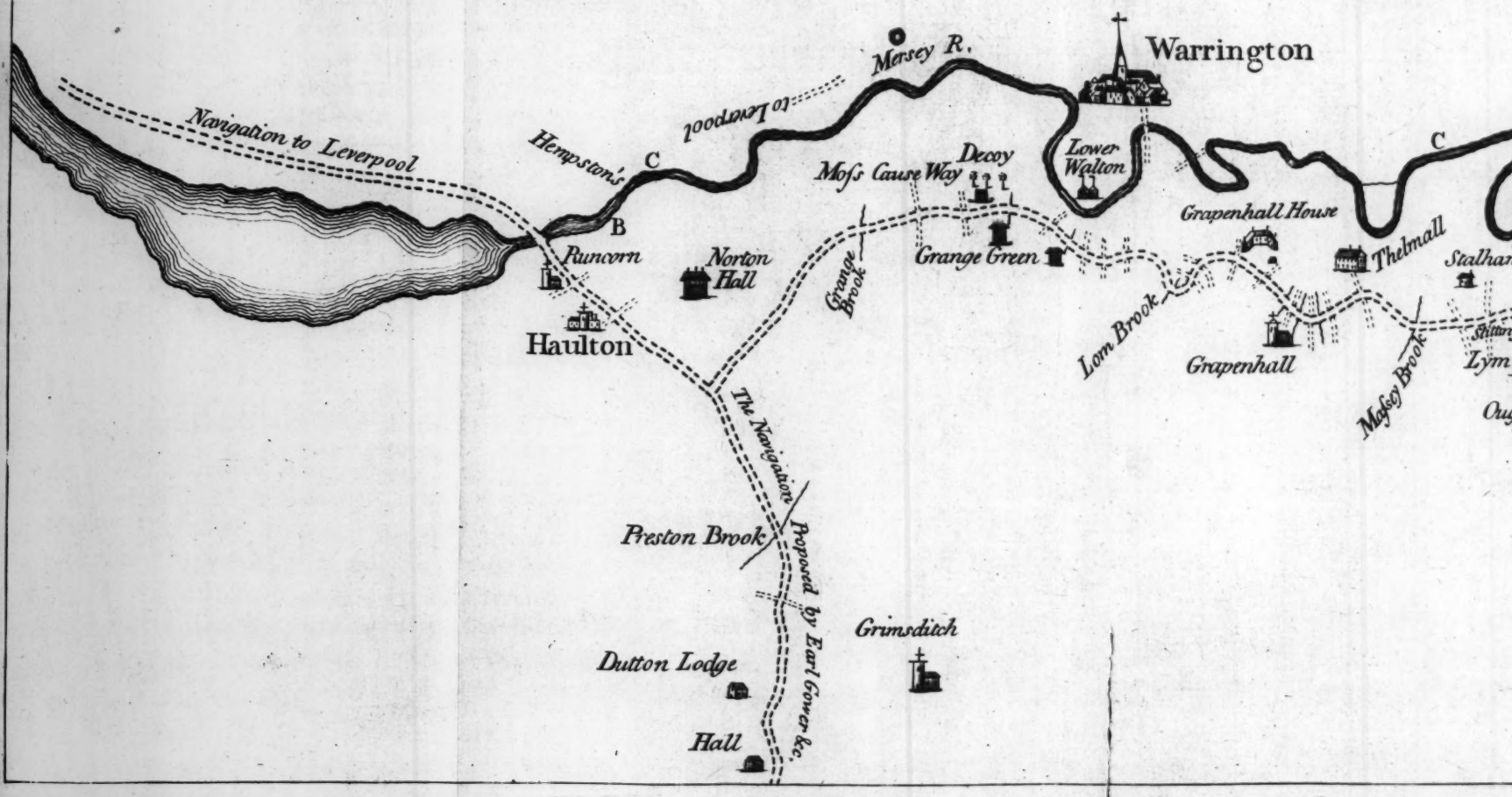
But here I ſhould add, that a ſcheme, much greater than any thing yet executed, is in contemplation, though not yet come before Parliament. His Grace was firſt enabled to extend his canal to the *Hempſtones*, (ſee the Map;) but my Lord *Gower*, and many other perſons, obtaining an act for a canal from the *Trent* to the *Merſey*, to communicate between the towns of *Hull* and *Liverpool*, the Duke of *Bridgewater* agreed with them (under authority of Parliament) to vary the courſe of his intended canal, and meet theirs half way, between *Preſton-brook* and *Runcorn*, and then the two canals, united, to be carried to the *Merſey* at *Runcorn*.

Since that Mr. *Brindley* has viewed the river at *Runcorn*, and is of opinion, that the navigation might be carried *over* it in an aquæduct, and then forwarded directly to *Liverpool*. And we may expect, in a few years, to hear that his Grace has completed his navigation this way, by reaching the *Merſey* at *Runcorn Gap*; after which, this canal will undoubtedly be the eaſieſt, cheapeſt, and beſt way of ſending goods of all kinds from and to *Liverpool* and *Manchester*.

It is to that period his Grace looks for a reimburſement of the immenſe ſums this navigation has

and

A PLAN of the Duke of Bridgewa NAVIGABLE CAN



PLAN
of the
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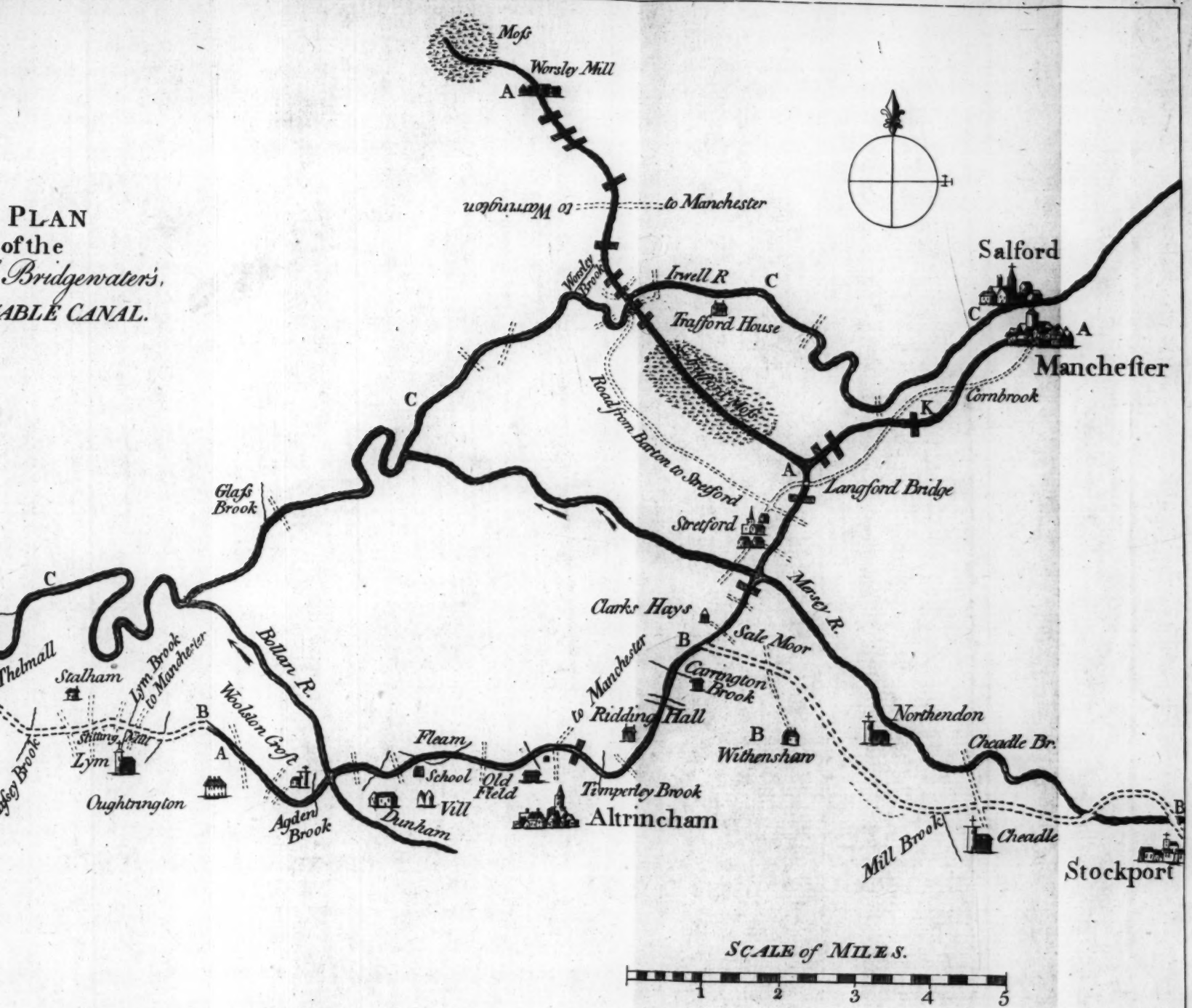

and will coſt him: The benefit of water carriage for his coals at *Worſley* to *Mancheſter*, *Altringham*, *&c.* is certainly a great advantage; but not near ſufficient to repay the expence of ſuch vaſt undertakings; but when two ſuch conſiderable trading and manufacturing towns as *Mancheſter* and *Liverpool* communicate, by means of this navigation, at a cheaper and eaſier rate than by the old one, there is no doubt but his Grace will meet with that profitable return his noble ſpirit ſo truly deſerves

This ſcheme is a vaſt one, and worthy ſo bold and daring a genius. The river *Merſey*, at that place, is five hundred and ſixty yards wide; and at ſpring tides the water flows near eighteen feet perpendicular. The maſts of veſſels, which navigate the river itſelf, are ſaid to be ſeventy feet high; add to all this, that the river is ſometimes rough and boiſterous: It is planned, notwithſtanding theſe tremendous difficulties, to carry the canal acroſs the river. The greateſt undertaking (if executed) that ever yet was thought of, and will exceed the nobleſt works of the *Romans*, when maſters of the world; or the legendary tales even of *Semiramis* herſelf.

The excellency and utility of the plan are, however, indiſputable: If the canal was carried directly to the town of *Live pool*, there would at once be a complete, eaſy, ſafe, and cheap navigation from that great ſea-port directly to *Mancheſter*, and all the other towns and places near which the canal goes. The preſent navigation is that of the river *Merſey*, or, in other words, an arm of the ſea for ſeveral miles, which is at beſt but an inſecure navigation for inland boats, not to ſay a dangerous one, and occaſions ſuch precautions of the expenſive kind, that the carriage of goods can never be half ſo cheap or regular as upon a canal. This river partakes, with others, of diſadvantages, to which canals are not ſubject, ſuch as tides, floods, working one way againſt a ſtream, &c. &c. from all which the new navigations are perfectly free:

free; add to this, the old navigation here is cramped with ten times the number of locks, that the canal would be.

But ſomething ſure is due to the execution and poſſeſſion of works, which command the attention and admiration of all *Europe:* The number of foreigners who have viewed the Duke of *Bridgewater*'s preſent navigation, is ſurprizing; what would it be if his Grace was to extend it over a boiſterous arm of the ſea?—To exhibit a navigation afloat in the air, with ſhips of an hundred tons ſailing full maſted beneath it. What a ſplendid idea!*

Upon the whole, the uncommon ſpirit which actuated his Grace the Duke of *Bridgewater* in deſigning and executing ſuch noble works, can never be ſufficiently admired: At an age when moſt men aim only at pleaſure and diſſipation, to ſee him engaged in undertakings, that give employment and bread to thouſands; that tend ſo greatly to advance the agriculture, manufactures, and commerce, of an extenſive neighbourhood; in a word, that improve and adorn his country, is a ſight ſo very uncommon, and ſo

* In ſome of the controverſial writings, publiſhed on the propoſition of a navigation from *Hull* to *Liverpool*, the prejudiced, or rather intereſted people, who were ſtaunch friends to the *old* navigations, and by the bye, ridiculed *canals*, in a manner which muſt now, while ſuch great ſucceſs attends them, turn, I think, to their ſhame, among other arguments aſſerted the ſufficiency of the navigation to *Liverpool* already exiſting, a ſtroke in one of their anſwerers is excellent:---" The delays and inconveniences render " this (the old) navigation ineffectual for the conveyance of the pro- " duce *even* of the county of *Cheſter*; as far the moſt conſider- " able part of the *cheeſe* produced in that county is now carried " *by land parallel* with the *whole length* of this EXCELLENT na- " vigation, to *Frodſham-bridge* and *Bank-quay*; from which places " it is conveyed by flats to *Liverpool*, there to be re-ſhipped for " *London*, and other markets; and SALT, the other *ſtaple* arti- " cle of this county, is ſent in *great quantities*, all *by land car-* " *riage*, from *Northwich* to *Manchester*, for the ſupply of that " town, and a very extenſive and populous neighbourhood, not- " withſtanding the preſent *navigable communication* between " thoſe places."

great,

great, that it muſt command our admiration. Nor was it leſs to his Grace's honour, that, in the execution of theſe ſpirited ſchemes, he had the penetration to diſcern the characters of mankind ſo much, as to fix on thoſe people who were formed by nature for the buſineſs; to draw forth latent merit; to bring from obſcurity one of the moſt uſeful genius's that any age can boaſt; to throw that genius at once into employment; to give a free ſcope to his bold ideas; to be unſparing of money in ſupporting them; and to keep him conſtantly in a ſituation of rendering his talents uſeful to his country; all prove that his Grace has a mind ſuperior to common prejudice; that he is one of thoſe truly great men, who have the ſoul to execute what they have the genius to plan.

I remain, dear Sir,

yours, very ſincerely.

LETTER XXI.

I Took the road from *Dunham* to *Knutsford*: In that tract, land letts from 20*s.* to 35*s. per* acre. Farms riſe from 40*l.* to 200*l.* a year. They reckon the product of a cow at 5*l.*

About *Knutsford* there are chiefly two ſoils, clay and ſand. The average rent is about 16*s.* an acre. Farms are, in general, about 20*l.* or 30*l.* but ſome of 150*l.* and 200*l.* a year

Their courſes,

1. Fallow
2. Wheat
3. Barley
4. Oats.

And,

1. Fallow
2. Wheat
3. Barley
4. Clover for two or three years
5. Wheat.

The *quantity* of wheat ſown is but trifling. For barley they plough three or four times, ſow three buſhels, and gain, at an average, five quarters. For oats they plough once, ſow five buſhels, and gain from forty to fifty. Very few turneps are ſown by farmers, but ſome by gentlemen.

The farmers are getting more into tillage than formerly, and to their prejudice, for barley will only grow with much manure. The town of *Mancheſter* ſetting up malt-kilns in oppoſition to thoſe of *Yorkſhire*, is what encourages the farmers to extend their tillage.

Clover they ſow with barley, mow it twice, and gain two tons and a half the firſt time, and about a ton the ſecond.*

Potatoes they prepare for by digging, generally graſs land for the firſt crop; they ſlice and dibble them in one foot aſunder every way, twenty buſhels to the acre: Hand-hoe and hand weed. The produce gene-

rally from three to four buſhels from a perch, or about 500 *per* acre:—Wheat after them. The expences are,

Digging, 2*l.*
Weeding, &c. 15*s.*
Taking up, 1½*d. per* buſhel.

Marle is their chief manure; they have it brown, red, blue, and alſo ſhell marle. They lay two ſquare roods and an half *per* acre, which coſt them from 3*l.* to 4*l.* lay it chiefly upon graſs. Shell marle is of ſo excellent a nature, that it laſts very good for ten years, and the land conſtantly cropped—a huſbandry not much to the credit of the *Cheſhire* farmers. They know nothing of chopping ſtubble, but ſtack their hay at home.

Good graſs land letts at about 25*s. per* acre: they apply it chiefly to dairying, and reckon that an acre and half is ſufficient for the ſummer feeding a cow. Their breed of horned cattle is a mongrel, between the long and ſhort. The product of a cow they reckon at from 5*l.* to 8*l.* Many give in cheeſe alone to the amount amount of 6*l.* 10*s.* others as follow:

Cheeſe	—	—	6*l.* 0*s.*
Butter	—	—	1 0
Calf	—	—	0 10
			7 10

The average quantity of milk *per* day about four gallons. They do not keep above three ſwine to twenty cows. Their winter food is hay and ſtraw; of the firſt they eat about two tons. A dairy maid can take care of fifteen. The ſummer joiſt is 25*s.* In the winter they are always kept in the houſe tied up.

It is ſuppoſed in general, that the famous *Cheſhire* cheeſe depends more on the quality of the land, than on any particular receipt.

It

It has been found, that liming and enriching the land has made it the worſe for cheeſe.

Cold clays are beneficial ſoils for cheeſe; in general, the worſt land makes the beſt cheeſe.

Many of the great dairy farmers keep their cows like running horſes, littered down as well; kept perfectly clean, and fed conſtantly with ground oats; ſtraw only till *Chriſtmas*. Some of theſe make 8*l*. 9*l*. and 10*l*. profit *per* cow.

The breed even of theſe is in general ſmall; will not fat to above thirty-two ſtone None of the *Lancaſhire* long horns will equal them in milking. Some farmers have got a croſs breed by *Lancaſhire* bulls, but it has been found prejudicial to the dairy.

In the management of their milk, the laſt night's is ſet for cream, and the milk, with the new of this morn, mixed for the cheeſe; likewiſe moſt of the cream of laſt night's milk, warmed to the warmth of the new milk. They uſe nothing but rennet for coagulation.—The cheeſes weigh from 15*lb*. to 120*lb*.

Their tillage is too trifling to admit a general deſcription; but they reckon the annual expence of a horſe at 6*l*. They break up their ſtubbles for a fallow in *May* or *June*, ſtir three inches deep. The price of ploughing *per* acre. 4*s*. 6*d* and 5*s*. Know nothing of cutting ſtraw into chaff.

In the hiring and ſtocking of farms they reckon 200*l*. ſufficient for one of 50*l*. a year.

Land ſells at thirty and thirty-two years purchaſe.

Tythes both gathered and compounded.

Poor rates 3*s*. in the pound. The employment chiefly ſpinning of flax. All drink tea.

The farmers carry their corn ſeven miles; that is, to the Duke of *Bridgewater*'s navigation.

Leaſes run chiefly for three lives

The general œconomy of their farms will be ſeen from the following ſketches.

200 acres in all	170 graſs
30 arable	£. 150 rent
	6 horſes

	6 horſes	20 ſheep
	50 cows	3 men
	6 young cattle	2 boys
	5 fatting beaſts	3 maids
Another,	150 acres in all	5 fatting beaſts
	40 arable	1 man
	110 graſs	2 boys
	£. 120 rent	2 maids.
	35 cows	
Another,	130 acres in all	40 cows
	20 arable	10 ſheep
	110 graſs	1 man
	£. 100 rent	2 boy
	4 horſes	3 maids.
Another,	50 acres in all	2 horſes
	5 arable	12 cows
	45 graſs	1 boy
	£. 45 rent	1 maid.
Another,	38 acres all graſs	9 cows
	£. 30 rent	1 boy.
	1 horſes	

The little farmers in this country are reckoned more wretched than even day-labourers.

LABOUR.

In harveſt, 1*s.* 6*d.* and beer.
In hay-time, 1*s.* 6*d.* and ditto.
In winter, 1*s.*
Mowing graſs, 1*s.* 6*d.* to 2*s.*
Ditching, 4*d.* to 7*d.*

IMPLEMENTS.

A waggon, 15*l.*
A cart, 9*l.*
A plough, 15*s.*
A roller, 4*l.* 10*s.*
A ſcythe, 2*s.* 6*d.* to 5*s.*
A ſpade, 4*s.* 6*d.*
Laying a ſhare and coulter, 6*d.* and iron.
Shoeing, 1*s.* 4*d.*

PROVISIONS, &c.

Bread——barley.
Cheeſe, $2\frac{1}{2}d.$
Butter, $7d.$ 18 *oz.*
Beef, $2\frac{1}{2}d.$
Mutton, $3\frac{1}{2}d.$
Veal, $4d.$
Pork, $4d.$
Milk, $\frac{1}{2}d.$ *per* quart, ſkim.
Potatoes, 1*s.* 2*d.* *per* buſhel.
Candles, $7d.$
Soap, $6d.$
Labourer's houſe-rent, 30*s.* to 3*l.*
———— firing, 20*s.*

At *Knutsford* is a pretty briſk manufacture, particularly a ſilk mill that employs eighty women and children; the firſt earn from 4*s.* to 5*s.* a week, and children from $8d.$ to 2*s.*

Alſo a thread manufacture, in which men earn from 6*s.* to 8*s.* a week; but few women; but children earn from 1*s.* to 2*s.*

Likewiſe a worſted manufacture; the drawing it from the wool; the earnings.

Men 12*s.* to 14*s.*
Women (ſpinners) 2*s.* $6d.$ to 3*s.*
Children (ditto) 2*s.*

I advanced ſouthward by *Holme's Chapel*, the ſoil about that place is chiefly of ſand and clay; lets about 20*s.* at an average. Farms from 20*l.* to 300*l.* a year. Their courſe generally

1. Fallow
2. Wheat
3. Oats
4. Clover.

And,
1. Fallow
2. Barley
3. Wheat.

Of wheat the average crop is about twenty buſhels, of barley thirty, and of oats as much.

Marle

Marle is here the grand manure; they lay about a rood and half on an acre, which coſts from 1*l.* 10*s.* to 2*l.* and laſts from twenty to forty years; it is of a brown colour mixed with blue. They alſo lime their land, generally mix it with dung for wheat; it coſts them 10*d.* the *cwt.*

Their graſs land letts from 20*s.* to 40*s.* *per* acre, it is all uſed in dairying. Of meadow land they reckon an acre and half will ſummer feed a cow, but in the uplands it takes three acres. They are pretty careful in manuring the graſs with lime and earth mixed together.

Their cows are of an ordinary breed, looſe boned; ſome farmers have aimed at an improvement by *Lancaſhire* bulls, but it does not anſwer, except in beauty. The average quantity of milk is about five gallons; but ſome of Mr. *Vernon*'s near this place have given ten gallons *per* day. The product of a good cow they calculate as follows:

				£.		
Four *cwt.* of cheeſe, at 32*s.*					6	8
Butter	—	—		1	0	
Calf	—	—	—	1	1	
Swine	—	—	—		0	10
				8	19	

But the average is not above two *cwt.* and a half of cheeſe; and the whole amount about 6*l.* or 6*l.* 10*s.*

They reckon that ten or twelve cows will fat three or four pigs. The calves ſuck a month. They calculate ſeven cows the proper number for a dairy maid. They are kept in the houſe in winter, and fed with hay or ſtraw as the farmer manages: One ton of hay will winter a cow with ſtraw; but if without two tons.

In the hiring and ſtocking farms, they reckon the following ſums neceſſary for one of 100*l.* a year.

			£.
Twenty cows,	—	—	140
Implements,	—	—	40
Three horſes and gears,		—	30

Seed,	— — —	10
Rent,	— — —	50
Houſekeeping,	— —	40
Labour,	— —	50
Swine,	— — —	2
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The general œconomy will be ſeen from the following ſketches.

400	acres in all	12	young cattle
40	arable	2	men
360	graſs	2	boys
£. 250	rent	4	maids
6	horſes	6	labourers.
50	cows		
Another, 200	acres in all	20	ſheep
30	arable	2	men
170	graſs	2	boys
£. 200	rent	3	maids
3	horſes	2	labourers
30	cows		
Another, 50	acres all graſs	4	young cattle
£. 40	rent	1	boy
1	horſe	1	maid.
10	cows		

LABOUR.

In harveſt, 1*s.* 6*d.* and board.
In hay time, 1*s.* 6*d.* and ditto.
In winter, 10*d.* to 1*s.* ſmall beer and broth.
Reaping wheat, *per* acre, 3*s.* to 4*s.*
——— barley, 3*s.* 6*d.*
——— oats, 2*s.* 6*d.*
Mowing of graſs, 1*s.* 3*d.* to 2*s.* 6*d.*
Threſhing wheat, 2*d.* *per* buſhels.
——— barley, 1*d.* ditto.
——— oats, 1*d.* ditto.
Head-man's wages, 10*l.* and 10*s.* for waſhing.

Next

Next ditto, 7*l.* 10*s.*
Boy of ten or twelve years, 20*s.*
Dairy maids, 40. to 5*l.*
Other ditto, 30*s.* to 45*s.*
Women *per* day in harveſt, 1*s.* and beer.
In hay time, 7*d.*
Value of a man's board, waſhing, and lodging, 4*s.* a week.

IMPLEMENTS, &c.

A waggons, 20*l.*
A cart, 10*l.*
A plough, 27*s.*
A harrow, 16*s.*
No rollers.
A ſcythe, 2*s.* 6*d.* to 5*s.*
A ſpade, 4*s.*
Shoeing, 1*s.* 4*d.*

PROVISIONS, &c.

Bread—barley
Cheeſe, 3½*d.*
Butter, 8*d.* 18 to 24 *oz.*
Beef, 2½*d.*
Mutton, 3½*d.*
Veal, 3½*d.*
Pork, 3½*d.*
Bacon, 6*d.*
Potatoes, 4½*d. per* peck.
Candles, 7*d.*
Soap, 6*d.*
Labourer's houſe-rent, 20*s.* to 35*s.*
——— firing, 21*s.*

BUILDING.

Bricks, 12*s. per* thouſand.
Oak timber, 2*s.*
Aſh ditto 9*d.* to 1*s.* 2*d.*

Maſon *per* day, 1*s.* 6*d.*
Carpenter ditto, 1*s.* 6*d.*

I forgot to remark, that all the horſes I have ſeen in *Cheſhire* are of a very bad breed, and worth but little for real uſe.

From *Newcaſtle-under-line* I had the pleaſure of viewing the *Staffordſhire* potteries at *Burſlem*, and the neighbouring villages, which have of late been carried on with ſuch amazing ſucceſs. There are 300 houſes, which are calculated to employ, upon an average, twenty hands each, or 6000 in the whole; but if all the variety of people that work in what may be called the preparation for the employment of the immediate manufacturers, the total number cannot be much ſhort of 10,000, and it is increaſing every day.

It dates its great demand from Mr. *Wedgwood* (the principal manufacturer) introducing, about four years ago, the cream-coloured ware, and ſince that the increaſe has been very rapid. Large quantities are exported to *Germany*, *Ireland*, *Holland*, *Ruſſia*, *Spain*, the *Eaſt Indies*; and much to *America*: Some of the fineſt ſorts to *France*. A conſiderable ſhopkeeper from the *Pont-neuf* at *Paris*, was lately at *Burſlem*, and bought a large quantity: It is poſſible, indeed, he came for more purpoſes than to buy; the *French* of that rank ſeldom travel for buſineſs, which might be as well tranſacted by a ſingle letter.

The common clay of the country is uſed for the ordinary ſorts; the finer kinds are made of clay from *Devonſhire* and *Dorſetſhire*, chiefly from *Biddeford*; but the flints from the *Thames* are all brought rough by ſea, either to *Liverpool* or *Hull*, and ſo by *Burton*. There is no conjecture formed of the original reaſon of fixing the manufacture in this ſpot, except for the convenience of plenty of coals, which abound under all the country.

The flints are firſt ground in mills, and the clay prepared by breaking, waſhing, and ſifting, and then

then they are mixed in the requiſite proportions. The flints are bought firſt by the people about the country; and by them burnt and ground, and ſold to the manufacturers by the peck.

It is then laid in large quantities, on kilns, to evaporate the moiſture; but this is a nice work, as it muſt not be too dry: Next it is beat with large wooden hammers, and then is in order for throwing, and is moulded into the forms in which it is to remain: This is the moſt difficult work in the whole manufacture. A boy turns a perpendicular wheel, which, by means of thongs, turns a ſmall horizontal one, juſt before the thrower, with ſuch velocity, that it twirls round the lump of clay he lays on it, into any form he directs it with his fingers.

The earnings of the people are various.

Grinders, 7*s.* *per* week.
Waſhers and breakers, 8*s.*
Throwers, 9*s.* to 12*s.*
Engine lath man, 10*s.* to 12*s**.
Handlers, who fix hands, and other kinds of finiſhers, for adding ſprigs, horns, *&c.* 9*s.* to 12*s.*
Gilders,
Men, 12*s.*
Women, 7*s.* 6*d.*
Modellers, apprentices, one of 100*l.* a year.
Preſſers, 8*s.* to 9*s.*
Painters, 10*s.* to 12*s.*
Moulders in plaiſter of *Paris*, 8*s.*

In general the men earn from 7*s.* to 12*s.* Women 5*s.* to 8*s.* Boys, chiefly apprentices, but 2*s.* a week the firſt year, and a riſe of 3*d.* *per annum* afterwards. Before they are apprentices 2*s.* 9*d.* *per* week, as they then learn nothing. But few girls.

In general we owe the poſſeſſion of this moſt flouriſhing manufacture to the inventive genius of Mr.

* Mr. *Wedgwood* was the firſt perſon who introduced this machine into a porcelaine manufacture.

Wedgwood; who not only originally introduced the preſent cream coloured ware, but has ſince been the inventor of every improvement, the other manufacturers being little better than mere imitators; which is not a fortunate circumſtance, as it is unlucky to have the fate of ſo important a manufacture depend upon the thread of one man's life: However, he has lately entered into a partnerſhip with a man of ſenſe and ſpirit, who will have taſte enough to continue in the inventing plan, and not ſuffer, in caſe of accidents, the manufacture to decline.

I took the opportunity of being at *Burſlem*, to view the amazing works carrying on at *Harecaſtle*. The navigation I mentioned in deſcribing that of the Duke of *Bridgewater*, promoted by my Lord *Gower*, and carried on by ſubſcription, to join the ports of *Hull* and *Liverpool*, is carried acroſs the kingdom, without any very material interruption, except at *Harecaſtle*; but there it follows a valley, which, contrary to moſt, terminates againſt hills, without any winding around them; ſo that the navigation muſt either be here ſtopped, and a land carriage, like the *American* ones, at the falls in their rivers, be the conſequence, or the range of hills which faced them pierced through: The attempt was an immenſe one; but it is made, and will undoubtedly ſucceed.

The tunnel, in the Duke of *Bridgewater's* navigation, is of a ſmall breadth, as it is the termination of the canal, and boats made on purpoſe for entering it; but *Harecaſtle* being almoſt in the center of a navigation of an hundred miles, a ſubterrane muſt of neceſſity be ſpacious enough to admit all the traffic of the canal, paſſing and repaſſing, or it would be uſeleſs. The canal is therefore carried underground in its common breadth and depth; it is twelve feet wide, and nine high; and will extend under an high range of country above a mile and half. The firſt eſtimate, or rather ſuppoſition of the expence, was 10,000*l.* but it is now ſaid that that ſum will

prove

prove very inſufficient; the immenſity of the undertaking not having (relative to the eſtimate) been duly conſidered.

It is certainly an amazing work; about four hundred yards of it are finiſhed. The method of working, is ſinking ſhafts like thoſe of coal pits, in a line over the courſe of the canal; engines are then erected; and the earth, rock, coal, and all the ſubſtances that riſe, drawn up by a horſe, which is kept regularly employed in drawing up the ſtuff, as faſt as the workmen dig it below, in hollowing out the cavern: It is walled, paved, and arched, as they finiſh. Other machines, worked by wind and water, are erected alſo to draw up the water: The whole work is carried on regularly, and all obſtructions removed as faſt as they are diſcovered. In a word, the ſucceſs of the work is not doubted; but as to the extent of the expence, it cannot admit of calculation, as it is impoſſible to conjecture the nature of the ſtrata they will have to cut through, the hardneſs of the rock, or the quantities of water with which they will be troubled. I was told that the navigation will be in ſome places near two hundred feet below the ſurface.

By ſuch noble undertakings is the preſent age peculiarly diſtinguiſhed. When agriculture, manufactures, and commerce flouriſh, a nation grows rich and great, and riches cannot abound, without exciting that general induſtry, and ſpirit for improvement, which at laſt leads to performing works, which, in poorer times, would be thought wonders.

At *Newcaſtle* is a conſiderable manufacture of ſhoes and hats; the firſt employs above an hundred hands, who earn from 10*d.* to 2*s.* a day. Of the latter there are three or four hundred; the men earn from 7*s.* to 10*s.* a week.

Women, 3*s.* to 6*s.*

Children, 1*s.*

PRO-

PROVISIONS, &c.

Bread——maſlin, 1*d.*
Cheeſe, 3*d.*
Butter, 8*d.*
Beef, 3*d.*
Mutton, 3*d.*
Veal, 3*d.*
Milk, $\frac{1}{2}$*d. per* pint.
Potatoes, 4*d. per* peck.
Poor's houſe rent, 40*s.* to 3*l.* 10*s.*
——— firing, 20*s.* to 25*s.*

From *Newcaſtle* ſouthwards the country improves greatly in beauty: The ſoil towards *Stone* is generally a ſandy loam. About that place it is alſo ſandy, on a bed of marle; lets from *Newcaſtle* to *Stone*, and alſo around that place, from 12*s.* to 20*s. per* acre. Farms are various, riſing from 30*l.* to 500*l.* a year. Their courſes are chiefly,

1. Fallow
2. Wheat
3. Oats.
4. Barley
5. Clover two or three years
6. Oats
7. Beans.

A vile, as well as ſtrange courſe.

Another is,

1. Fallow
2. Wheat
3. Oats
4. Barley.
5. Turneps
6 Barley
7. Clover.

Which is almoſt as odd as the other.

The average products of corn are,

Of Wheat,	22 buſhels
Barley,	30
Oats,	40
Beans,	30
Peaſe,	25

For turneps they plough three times: Good farmers hoe them twice: The average value from 50*s.* to 3*l.* 10*s.* They uſe them both for ſheep and beaſts.

Clover

Clover they ſow with ſpring corn, mow it the firſt year, and get about a ton and half of hay at a mowing.

Their method of cultivating potatoes, is to dung graſs land well, and dig it in, which coſts 7*d.* a perch; then dibble in the ſlices (tho' ſome farmers plant them whole.) While they are growing they are hand-hoed and kept clean. The produce 450 buſhels at an average.

The chief manure in this country is marle, which is generally laid on the arable lands at the rate of 120 loads *per* acre, each twenty-five hundred weight; if the marle pit is at any diſtance, the expence will be 10*l.* or 12*l.* *per* acre; but if it is on the ſame piece, it will be done for 3*l.* 10*s.* or 4*l.* They likewiſe uſe a little lime; find it anſwers beſt on cold ſpringy land; they lay it on the fallows twenty buſhels *per* acre; the price 7½*d.* *per* buſhel. They know nothing of chopping the ſtubbles, but ſtack their hay at home.

Good graſs letts at 30*s.* *per* acre; it is chiefly uſed for dairying: One acre they reckon ſufficient for the ſummer feed of a cow. Some few farmers marle it.

The breed of cattle is the long horned: The oxen fat from forty-eight to eighty ſcore. The product of a cow they reckon,

	l.	*s.*
Three hundred weight of cheeſe, at 27*s.* — —	4	1
Butter, — —	0	10
Calf, — —	0	10
	5	1

The average quantity of milk five gallons a day. They keep about four hogs to ten cows, which is alſo the number they reckon proper for a dairy maid to look after. The winter food is hay and ſtraw; the quantity of the firſt is various, but many farmers give their cows very little hay, ſo that the quantity

riſes

riſes from five hundred weight to a ton. Keep them in a houſe.

They fat their hogs from fifteen to thirty-five ſcore.

No account could be taken of their flocks of ſheep, as they in general only winter them.

In their tillage they reckon eight horſes neceſſary for the management of an hundred acres of arable: They uſe three or four in a plough, and do an acre and a quarter, and an acre and a half in a day. The annual expence of a horſe they reckon 7*l.*

They do not break up their ſtubbles for a fallow till after barley ſowing. The price of ploughing *per* acre is 5*s.* and the common depth four inches. They know nothing of cutting ſtraw into chaff.

The hire of a cart, three horſes, and driver, *per* day, is 5 .

In the hiring and ſtocking of farms, they reckon 350*l.* a ſufficient ſum to take one of 100*l.* a year.

Land ſells from thirty to forty five years purchaſe.

Tythes are both gathered and compounded; if the latter,

Wheat from 3*s.* to 5*s.*
Barley, 3*s.*
Oats, 2*s.*
Hay, 1*s.* 6*d.*

Poor rates 1*s.* 6*d.* in the pound. Idleneſs the chief employment of the women and children: All drink tea, and fly to the pariſhes for relief, at the very time that even a woman for waſhing is not to be had. By many accounts I received of the poor in this neighbourhood, I apprehend the rates are burthened for the ſpreading lazineſs, drunkenneſs, tea-drinking, and debauchery:—The general effect of them, indeed, all over the kingdom.

Leaſes are various, both for terms from ſeven to twenty-one years, and for two and three lives.

The general œconomy will be ſeen from the following particulars of farms.

400 acres in all
150 arable
250 graſs
£. 300 rent
12 horſes
36 cows
12 fatting beaſts
30 young cattle
50 ſheep
3 men
1 boy
2 maids
6 labourers
2 waggons
3 carts
3 ploughs.

Another, 200 acres in all
90 arable
110 graſs
£. 150 rent
9 horſes
20 cows
3 fatting beaſts
20 young cattle
20 ſheep
2 men
1 boy
2 maids
3 labourers
1 waggon
3 carts
3 ploughs.

Another, 90 acres in all
30 arable
60 graſs
£. 60 rent
4 horſes
6 cows
8 young cattle
1 man
1 boy
1 maid
1 labourer
3 carts
2 ploughs.

Another, 140 acres in all
70 graſs
70 arable
£. 115 rent
8 horſes
14 cows
6 fatting beaſts
12 young cattle
10 ſheep
2 men
1 boy
1 maid
2 labourers
1 waggon
2 carts
3 ploughs.

Another, 125 acres in all
80 arable
45 graſs
£. 100 rent
8 horſes
15 cows
2 men
1 boy
2 maids
3 labourers
1 waggon
3 carts
3 ploughs.

Another,

Another, 50 acres in all — 4 cows
35 arable — 3 young cattle
15 graſs — 1 man
£. 45 rent — 2 carts
4 horſes — 1 plough.

LABOUR.

In harveſt, 1*s.* 6*d.* and beer.
In hay time, 1*s.* 2*d.* and ditto.
In winter, 1*s.* and ditto.
Reaping *per* acre, 4*s.* 6*d.*
Mowing barley, 1*s.* 6*d.*
——— oats, 1*s.* 4*d.*
——— graſs, 1*s.* 4*d.*
Hoeing turneps, 4*s.* 6*d.*
——— beans, 2*s.* 6*d.*
Ditching, 4*d.* — eight yards.
Threſhing wheat, 4*s.* 6*d.* twenty buſhels.
——— barley, 3*s.* 4*d.*
——— oats, 22*d.* to 2*s.* 6*d.*
——— beans, 4*s.* 6*d.*
Filling marle cart 5*s.* *per* 120 loads, and board.
Firſt man's wages, 8*l.*
Next ditto, 6*l.*
Boy of ten or twelve years, 3*l.*
Dairy maid, 3*l.* 10*s.*
Other ditto, 3*l.* 10*s.*
Women *per* day in harveſt, 7*d.* and beer.
——— In hay-time, ditto.
Value of a man's board, waſhing, and lodging, 6*l.* 10*s.*

IMPLEMENTS.

A waggon, 20*l.*
A cart, 12*l.*
A plough, 14*s.*
A harrow, 18*s.*
A roller, 9*l.* to 10*l.* for corn.
A ſcythe, 3*s.* 6*d.*
A ſpade, 3*s.* 6*d.*
Shoeing, 1*s.* 4*d.*

PRO-

PROVISIONS, &c.

Bread—Wheat, $1\frac{1}{2}d.$
Cheeſe, $3\frac{1}{2}d.$
Butter, $7\frac{1}{2}d.$
Beef, $2\frac{1}{2}d.$
Mutton, $3\frac{1}{2}d.$
Pork, $3\frac{1}{2}d.$
Bacon, $5d.$
Milk, $\frac{1}{2}d.$ *per* pint.
Potatoes, $4\frac{1}{2}d.$ *per* peck.
Candles, $7d.$ *per lb.*
Soap, $6d.$
Houſe-rent, $2s.$ $6d.$ to $20s.$

BUILDING.

Bricks, *per* thouſand, $11s.$ $6d.$
Tiles, $17s.$
Oak timber, $1s.$ $2d.$ to $2s.$
Aſh, $11d.$ to $1s.$ $3d.$
Elm, $9d.$ to $1s.$ $3d.$
Carpenter *per* day, $1s.$ $6d.$
Maſon, $1s.$ $6d.$
Thatcher, $1s.$ and board.

The country continues to improve towards *Rudgeley Bridge:* About that place the ſoil is various; clay, ſandy gravel, and loams. The average rent of the arable is $14s.$ and the graſs $20s.$

Farms riſe from $20l.$ to $100l.$ a year.

The courſes,

1. Fallow
2. Wheat
3. Barley
4. Barley.

And,
1. Fallow
2. Wheat
3. Oats
4. Clover, three years.

Alſo,
1. Fallow
2. Barley
3. Turneps
4. Barley.

From,

From *Rudgeley Bridge* to *Litchfield* land lets from 20*s.* to 3*l.* an acre; average about 25*s.* Farms from 20*l.* to 200*l.* a year.

About *Shenſtone* the ſoil is light, ſandy, and gravelly; lets at 15*s.* an acre upon a medium. Farms from 20*l.* to 400*l.*

The courſe,

1. Turneps
2. Barley
3. Barley
4. Clover, two or three years:

Some farmers continue this courſe as follows;

5. Wheat
6. Oats.

They plough thrice for wheat, ſow two buſhels, and reap on an average twenty-five. For barley they ſtir twice, ſow three and an half or four buſhels, and gain upon a medium forty. Oats they generally ſow on turf, plough it once, ſow four buſhels, and reckon the mean crop at forty-five. They ſow a few peaſe; and upon turnep land ſow four buſhels *per* acre, and gain about thirty in return.

For rye they ſtir twice; ſometimes ſow it on turf on one earth: two buſhels of ſeed: the crop thirty. For turneps they plough thrice: hoeing is coming into uſe pretty faſt; about half the crops in the country being now hoed: but they do it only once: the value of the hoed crop 35*s.* *per* acre, but the unhoed ones only 20*s.* which one would apprehend a ſufficient argument even to convince farmers themſelves. They uſe them chiefly for ſheep.

Clover they ſow with ſpring corn, mow it but once, and gain about two tons of hay *per* acre. Their culture of potatoes conſiſts in dunging graſs land, and digging it in; they then dibble in the potatoe ſlices ten inches from each; and while growing hand hoe them well. The average produce *per* acre is about four hundred buſhels:—They ſow wheat after them, and get fine crops.

They have ſome marle, but not in large quantities; being uncertain where to find it: it is an excellent

lent manure: the colour is red: they lay ſixty three-horſe cart loads on an acre. Lime is the principal manure; they lay eight quarters *per* acre; it laſts good two years, and coſts 4*s.* 6*d.* a quarter, with carriage. They neither fold their ſheep, nor chop their ſtubbles. They find the beſt method of uſing their dung is to make compoſts of it with ditch-ſtuff and earth.

They drain many of their wet lands, dig them from two to three feet and a half deep, four in width at bottom, and fourteen at top, fill up with ſtones a foot deep, then lay in the ſods and earth.

Good graſs land lets from 20*s.* to 25*s.* *per* acre. It is moſtly uſed for dairying: an acre they reckon ſufficient to ſummer feed a cow: the beſt farmers manure it with compoſts of dung and earth.

The breed of cattle is the long horns; oxen fat from ſixty to eighty ſtone: they reckon the annual product at 5*l.* 10*s.* or 6*l.* The average quantity of milk *per* day ſix gallons. To twenty cows they keep about ſix hogs. The winter food is ſtraw; and at, and after calving, hay. The calves for killing, ſuck three or four weeks; but for rearing, not at all. Ten cows is the number a dairy maid generally takes care of. The ſummer joiſt is 30*s.* and in winter they reckon a cow to eat 15 *cwt.* of hay on an average; they then keep them in the farm yard.

Upon fatting a beaſt of forty ſcore they reckon 40*s.* profit.

Their hogs fat up to twenty ſcore.

Their flocks of ſheep riſe from ten to two hundred, the profit varies from 8*s.* to 20*s.* The winter and ſpring food is turneps; the joiſt upon which 4*d.* *per* week. The average fleece 8*lb.*

In their tillage they reckon ſix horſes neceſſary for the management of an hundred acres of arable land, uſe three or four in a plough, and do an acre a day.

The annual expence of a horſe they reckon at 10*l.* The ſummer joiſt is 50*s.* There are a few ox teams,

but horſes are ſuppoſed to be much the beſt, ſo that the number decreaſes. They do not break up their ſtubbles for a fallow till the ſpring. The price of ploughing 5*s. per* acre; the depth from two to four inches. Many farmers cut ſtraw into chaff; which is the firſt time I have met with the practice this age.

The hire of a cart, three horſes and a driver a day, is 7*s.*

In ſtocking farms they reckon 250*l.* ſufficient for one of 100*l.* a year.

Lands ſell at from thirty to thirty-five years purchaſe. There are many ſmall eſtates of 100, 200, and 300*l.* a year.

Tythes are both gathered and compounded, if the latter

Wheat 4*s.*
Barley 3*s.*
Oats 2*s.* 6*d.*
Peaſe 2*s.* 6*d.*

Poor rates 6*d.* in the pound; the women and children are in idleneneſs; but tea-drinkers.

The farmers carry their corn ten miles.

Leaſes are generally for terms of ſeven or fourteen years; but ſome for two and three lives.

The following particulars of farms will ſhew the general œconomy of the country.

700	acres in all	30	fatting beaſts
300	arable	200	ſheep (and more in winter)
400	graſs		
£. 400	rent	4	men
10	horſes	2	boys
12	draft oxen	4	maids
26	cows	10	labourers.

Another,

250	acres in all	15	cows
130	arable	40	ſheep
120	graſs	2	men
£. 210	rent	1	boy
8	horſes	3	labourers.
8	oxen		

Another,

Another,	100 acres in all	2 fatting beaſts
	60 arable	20 ſheep
	40 graſs	2 men
	£. 70 rent	1 boy
	6 horſes	2 maids
	10 cows	2 labourers.
Another,	85 acres in all	5 fatting beaſts
	50 arable	1 man
	35 graſs	1 boy
	£. 70 rent	1 maid
	4 horſes	1 labourer.
	6 cows	
Another,	60 acres in all	5 cows
	40 arable	10 ſheep
	20 graſs	1 boy
	£. 40 rent	1 maid.
	4 horſes	
Another,	30 acres in all	£. 25 rent
	10 arable	3 horſes
	20 graſs	4 cows.

LABOUR.

In harveſt, 1*s.* and beer.
In hay time, ditto.
In winter, 10*d.* and ditto
Reaping wheat, 7*s.* to 10*s.* *per* acre,
Mowing corn, 2*s.* to 2*s.* 6*d.*
——— graſs, 2*s.* to 3*s.*
Hoeing turneps, 5*s.*
Ditching, 6*d.* *per* eight yards.
Threſhing wheat, 4*d.* *per* buſhel.
——— barley, 2*d.*
——— oats, 1½*d.* to 2*d.*
——— beans, 1*d.* to 2*d.*
Digging, 6*d.* *per* eight yards ſquare.
Amount of a year's earnings of a labourer, 15*l.*
Firſt man's wages, 10*l.* to 12*l.*
Next ditto, 6*l.* to 7*l.*

Boy of 10 or 12 years, 50*s.*
Dairy maids, 3*l.* to 5*l.*
Other ditto, 50*s.*
Women *per* day in harveſt, 6*d.* and board.
In hay time, ditto.
In winter, 5*d.* and beer.
Value of a man's board, waſhing, and lodging, 9*l.*

IMPLEMENTS, *&c.*

A waggon, 20*l.*
A cart, 7*l.* to 9*l.*
A plough, 21*s.*
A harrow, 21*s.*
A ſcythe, 4*s.* 6*d.*
A ſpade, 3*s.* 6*d.*
Laying a ſhare and coulter, 8*d.* to 1*s.* 4*d.*
Shoeing, 1*s.* 4*d.*
Harneſs, 25*s.* *per* horſe; uſe the ſame both for carting and ploughing.

PROVISIONS, *&c.*

Maſlin Bread, 1*d.*
Cheeſe, 2½*d.*
Butter, 8*d.* 16 to 19 *oz.*
Beef, 2½*d.*
Mutton, 2½*d.*
Pork, 3*d.*
Milk, ½*d.* *per* pint.
Potatoes, 4*d.* *per* peck.
Candles, 7*d.*
Soap, 6*d.*
Labourer's houſe-rent, 20*s.* to 50*s.*
——— firing, 30*s.* Much hedge breaking.
Coals, 4*d.* *per* hundred weight.
Faggots, 6*s.* to 9*s.* *per* 120.

BUILDING.

Bricks, 11*s.* 6*d.* *per* thouſand.
Oak timber, 1*s.* 4*d.* to 2*s.*

Elm,

Elm, 20*d.*

Carpenter, 1*s.* 6*d.* a day.

Farm houſes of brick and tile.

The preceding huſbandry continued for ſome diſtance towards *Birmingham*. At *Aſton* I made particular enquiries, and found ſeveral variations.

The ſoil is all ſandy; lets from 15*s.* to 20*s.* an acre. Farms moſtly ſmall, but from twenty to two hundred.

The courſes,

1. Turneps
2. Barley
3. Oats
4. Clover two years, ſome few add
5. Wheat;

And,

1. Turneps
2. Barley
3 Oats
4. Clover
5. Oats.

For wheat they plough four times, ſow two buſhels and a half, and reap from twenty-three to twenty-five. They give three ſtirrings for barley, ſow from three to four buſhels, and reckon twenty-five the average produce. For oats they give but one earth, ſow five buſhels, and gain upon a medium four quarters. They plough but once for peaſe, ſow three buſhels, and ſometimes hand-hoe them; the crop twenty buſhels. Turneps they prepare for by three ſtirrings; hoeing is now common; generally once, and ſometimes twice: The average value 40*s. per* acre. They reckon the hoed crops better than the unhoed by 20*s.* an acre; they are uſed for ſheep and beaſts. Clover they ſow with ſpring corn, mow it once, and gain about a ton and a half of hay *per* acre. A little buck wheat is cultivated for ſwine.

For potatoes they dig up graſs land, and dibble in the ſetts; get fine crops of five or ſix hundred buſhels *per* acre; and very good wheat after them.

Lime is their principal manure; they lay nine quarters *per* acre, at 2*s.* a quarter, beſides leading; they mix it with dung, earth, *&c.*

Hollow draining is not uncommon in this country; they dig them from two to four feet deep, generally until they come to a bed of gravel: They fill them up a foot deep with furnace cinders, heath, ling, *&c. &c.* They are from four to eight inches wide at bottom, and twenty inches, or two feet, at top.

Good graſs land letts from 20*s.* to 40*s.* an acre. Moſt of it is applied to feeding cows, for ſupplying *Birmingham* with milk. Many farmers manure it. The product of cows in that way amounts from 6*l.* to 10*l.* a cow; a middling one will give ſix or ſeven gallons a day. The winter food is hay alone, of which they eat in general three hundred weight a week. The calves do not ſuck above two weeks: The ſummer joiſt *per* cow is 1*s.* 6*d.* a week: In the winter, after calving, they are kept in the houſe.

Sheep are kept only by farmers that have a right of commonage; the profit they calculate at 8*s.* a head. The average fleece, two pounds and a half to three pounds.

In their tillage they reckon ſix horſes neceſſary for the management of an hundred acres of arable land; They uſe two or three in a plough, and do an acre a day. The annual expence *per* horſe they calculate at 5*l.* The ſummer joiſt 2*s.* a week.

They break up their fallows for turneps at *Chriſtmas*; the depth of ſtirring in general from three to ſix inches: Much ſtraw is here cut into chaff.

The hire of a cart, three horſes, and driver, 5*s.* to 5*s.* 6*d.*

Many farmers hire farms of 100*l.* a year, with 350*l.* but it was the opinion of ſeveral ſenſible huſbandmen I converſed with, that upwards of 500*l.* is neceſſary to do it completely. That ſum they divided as follows:

30 cows

30 cows,	—	£. 210
6 horſes,	—	60
2 waggons,	—	35
2 carts,	—	10
Harneſs,	—	6
Sundry ſmall articles,	—	6
Rent,	—	50
Rates,	—	10
Houſekeeping, two men, two maids, two boys, and the farmer and wife,		60
Seed,	—	15
Hogs,	—	4
Wages,	—	28
Labourers,	—	25
		£. 519

Land ſells at thirty years purchaſe.

Tythes are in general compounded, *per* acre.

Wheat, 5*s.*
Barley, 2*s.* 6*d.*
Oats, 2*s.* 6*d.*
Peaſe, 2*s.* 6*d.*

Poor rates, 1*s.* to 1*s.* 6*d.*

The employment of the women and children ſpinning: All drink tea.

Leaſes are various, both lives and terms.

The following ſketches of farms will ſhew the general œconomy:

	86 acres in all	15 cows
	26 arable	1 man
	60 graſs	2 maids
£. 75	rent	2 carts.
	3 horſes	1 plough.
Another,	70 acres in all	12 cows
	20 arable	1 boy
	50 graſs	1 maid
£. 55	rent	2 carts
	3 horſes	1 plough.

Another,	40 acres all graſs	1 horſe
	£. 40 rent	1 boy.
	12 cows	
Another,	35 acres all graſs	1 horſe
	30 rent	1 boy
	11 cows	1 maid.

LABOUR.

In harveſt, 1*s.* and board.
In hay time, ditto.
In winter, 8*d.* and ditto.
Reaping, 4*s.* 6*d.* to 5*s.* *per* acre.
Mowing corn, 1*s.* 6*d.*
——— graſs, 2*s.*
Hoeing turneps, 5*s.*
Ditching, 4*d.* to 8*d.*
Threſhing wheat, 4*d.* *per* buſhel.
——— barley, 3*d.*
——— oats, 2*d.*
Digging, 6*d.* a rood.
Firſt man's wages, 7*l.* to 8*l.*
Next ditto, 4*l.* 10*s.* to 5*l.* 10*s.*
Boy of ten or twelve years, 40*s.*
Dairy maids, 3*l.* to 3*l.* 10*s.*
Other ditto, ditto.
Women *per* day in harveſt, 6*d.* and beer.
In hay time, ditto.

IMPLEMENTS, *&c.*

A waggon, 20*l.*	A barley roller, 15*s.*
A cart, 6*l.*	A ſcythe, 2*s.* 6*d.* to 3*s.* 6*d.*
A plough, 21*s.*	A ſpade, 3*s.* 6*d.*
A harrow, 15*s.*	Shoeing, 1*s.* 6*d.*

PROVISIONS, *&c.*

Wheat bread, 11*lb.* for 1*s.*
Cheeſe, 2½*d.*

Butter,

Butter, 8*d.*
Beef, $2\frac{1}{4}d.$
Mutton, 2*d.*
Pork, $3\frac{1}{2}d$ to 4*d.*
Milk, $\frac{1}{2}d.$ *per* pint.
Potatoes, 4*d.* *per* peck.
Candles, 7*d.*
Soap, $6\frac{1}{2}d.$
Labourer's houſe rent, 30*s.* to 50*s.*
——— firing, 20*s.* to 30*s.*
——— tools, 7*s.* 6*d.*
Coals, 12*s.* a ton.
Faggots, 16*s.* 120.

BUILDING.

Bricks, 11*s.* *per* thouſand.
Tiles, 12*s.*
Oak timber, 1*s.* to 2*s.* 6*d.*
Aſh ditto, 1*s.* to 2*s.*
Elm, 1*s.* to 1*s.* 6*d.*
Carpenter a day, 1*s.* 8*d.*
Maſon ditto, 1*s.* 8*d.*
Their labourers, 1*s.* 4*d.*

Having finiſhed ſo long an epiſtle, you muſt allow me to conclude, that I am, *&c.*

LETTER

LETTER XXII.

I Was no where more diſappointed than at *Birmingham*; where I could not gain any intelligence even of the moſt common nature, through the exceſſive jealouſy of the manufacturers. It ſeems the *French* have carried off ſeveral of their fabricks, and thereby injured the town not a little: this makes them ſo cautious, that they will ſhew ſtrangers ſcarce any thing; it was even with ſome difficulty that I gained the following ſlight intelligence.

Manufacturers of all ſorts,

Men earn 7*s.* to 3*l.* *per* week.
Women, 2*s.* 6*d.* to 7*s.*
Children, 1*s.* 6*d.* to 4*s.* 6*d.*

About 28,000 ſouls calculated in the town.

The manufacture more flouriſhing than ever in the war; fell upon the peace, and has of late aroſe again, but not near equal to its former height.

From this town I pointed my way to the *Leaſowes*, the ſeat of the late Mr. *Shenſtone*, now of Capt. *Turnpenny*. In that line of country land letts at an average at 12*s.* *per* acre. Farms from 20*l.* to 200*l.* a year.

In this country is dug the famous blazing cannel coal.

Arriving at *Hales Owen*, we walked up to the *Leaſowes*; but here I ſhould intimate, that as the late Mr. *Dodſley* gave a particular account of theſe grounds in ſo popular a book as *Shenſtone*'s Works, I ſhall only minute a few circumſtances, either omitted in that account, or finiſhed ſince it was wrote: And take the liberty of remarking wherein Mr. *Dodſley* fell ſhort of, or exaggerated, the beauty of his original.

The

The caſcade, viewed from the root houſe inſcribed to the Earl of *Stamford*, is aſtoniſhingly romantic; a large ſpace of ground at your feet, for above an hundred and fifty yards, is thickly covered with the ſtems of fine oaks, *&c.* a fall of water at the farther end of this ground firſt breaks to your view, and then forms twenty more before it reaches you, all broke into diſtinct ſheets, wildly irregular, by the intervening and croſſing ſtems of the trees above; their branches and leaves form a fine thick canopy of ſhade, which ſetts off moſt glorioufly the ſheets of water, which here and there meet the ſun beans and ſparkle in the eye. This intermixture of wood and water is amazingly fine.

From the bench inſcribed

To all friends round the Wrekin,

You look down upon a very beautiful variety of unequal ground; all waving cultivated incloſures, finely ſcattered with houſes, villages, *&c.* the pools appearing in broken ſheets among the wood in the valley: At the bottom of the ſlope is a kind of river, but the end is badly hid with a little trifling *Chineſe* bridge: however, from the ſpot, which Mr. *Dodſley* calls a cavity in a ſmall thicket filled with trees, the ſerpentine ſtream has a better effect.

After this, we next meet with a green bench with this inſcription:

—— "While Nature here
"Wantons as in her prime, and plays at will
"Her virgin fancies."

It is well placed, commanding a ſweet variety of wood, water, and waves of cultivated incloſures.

The walk and ſeat marked

Divini Gloria Ruris!

in Mr. *Dodſley*, is no where to be found:

The

The view from *Thomſon*'s ſeat is exquiſite and inimitable; ſweetly varied; the water admirably managed: In a word, it is a little ſcene of enchantment. I took a ſketch of the caſcade upon the left, which will give a faint idea of one beauty out of many.

From *Hales Owen* we took the road to *Hagley*, the ſeat of Lord *Littleton*. The houſe is an excellent living one; a well-deſigned mean between the vaſt piles raiſed for magnificence, and thoſe ſmaller ones, in which convenience is alone conſidered.

The Hall is thirty feet ſquare: It is ornamented with Statues of *Venus de Medicis*, *Bacchus*, *&c. &c.* and various buſts: The *Hercules*'s which ſupport the cornice of the chimney piece are heavy: Here are likewiſe baſs relieves, *&c.*

The Library, thirty three by twenty-five, is a good room; the ceiling ornamented with ſcrolls of ſtucco work. Here are pictures:

Richardſon. *Pope*, and his dog *Bounce.*
Aickman. *Thompſon.*
Gilbert Weſt.

The Dreſſing-room is twenty-one feet ſquare.

Van Capen. Poultry.
Wotton. Landſcape. Fine; but there is a light on the goats in the corner, which does not ſeem in uniſon with the reſt.
Jonſon. Lady *Littleton*, wife of Sir *Thomas.*
Zuccharo. Sir *John Littleton.*
Van Somer. Sir *Thomas Littleton.*
Jonſon. Sir *Alexander Temple.*
Mirevelt. Prince of *Orange.*
Greenhill. Mr. *Henry Littleton.*
Corn. Jonſon. Lady *Crompton.* Very fine.
Ditto. Queen of *Bohemia.*
Ditto. A Lady unknown.
Dobſon. Prince *Maurice.*
Honthruſt. Sir *R. Stainmore.*

In

In the Crimſon Bed-chamber,

Le Fevre. Dutcheſs of *Portſmouth.*
Reynolds. Lord *Littleton.*
Williams. Miſs *Forteſcue*, his firſt Lady.

In the Beſt Dreſſing room, twenty ſquare, an elegant chimney piece of white marble, the cornice ſupported by ionic pillars. The ceiling white ornaments in ſtucco on a lead coloured ground. Here are

Vandyke. The three *Maries* and a dead *Chriſt.* Exceedingly fine; admirably grouped; the colours moſt expreſſive.
Storck. A ſea piece.
Lely. A lady unknown.
Brughel. A landſcape; moſt minutely expreſſive.
Unknown. A ſea piece. Alſo Views of *Persfield.*
Houſeman. *Charles* II, and Queen.
Wotton. A Landſcape. Very fine.
Glow. Horſes.
Cypriani. *Arcadian* ſhepherds. The attitudes and groupes exceedingly pleaſing. Colours brilliant.
Viviano. An *Alto relievo.* Fine and ſpirited.
Lely. *L. Cary.*
Wyck. A battle piece: In the ſtile of *Borgognone.*
Cypriani. The triumph of *Bacchus*; a drawing. Fine.

The Saloon, thirty-ſix by thirty. The chimney-piece very beautiful, of *Siena* and white marble; the cornice ſupported by ionic pillars. In the centre of the frieze three boys in white marble poliſhed, and on each ſide a ſcroll of white on a *Siena* ground. Here are

Rubens. The marriage of *Neptune* and *Cybele.* The lady is a *Rubens* figure with a vengeance, and her attitude diſguſting.

Vandyke.

Vandyke. Earl and Counteſs of *Carliſle.* Very fine.

Titian. *Venus* reconciling herſelf to *Pſyche.* Her figure clumſy, but ſomewhat more delicate than *Rubens*'s: His attitude very expreſſive, but not of the ſubject. Colours fine, but their brilliancy gone off.

Baſſan. *Jacob* and his family. Prodigious fine. The minute ſtrength of expreſſion in the figures to the left great.

Vandyke. The royal family.

Jervois. *Charles* I. and his Queen.

The Drawing-room, thirty-four by twenty-two. The chimney-piece ſcrolls of white marble trailed on *Siena*; elegant. Lord *Bath*, by *Ramſay*, over it, incloſed in ornaments, elegantly carved and gilt. The cieling an oval, in the centre, *Flora*, by *Cypriani*; and in the corners the Seaſons: Her attitude elegant, and the colours pleaſing. The glaſs frames in this room are elegantly carved and gilt. Slabs of *Siena* marble.

Ramſay. Earl of *Hardwicke.*

Vanloo. Earl of *Cheſterfield.*

Ditto. Lord *Cobham.*

Unknown. Mr. *Pelham.*

The Gallery, eighty-five by twenty-two, in three diviſions, formed by double corinthian pillars. The chimney-piece, glaſs, table frames, and the giran doles carved in black and white.

Vandyke. Virgin and child. Very noble: Her attitude incomparably fine: The air of her head great: The child noble.

Ditto. Counteſs of *Bedford.*

Lely. Miſs *Brown.*

Ditto. Lord *Brouncker.*

The Dining-room, thirty-three by twenty-ſix. Here are,

Zuccharelli. Landſcape; a water-fall, and bridge; pleaſing.

Zuccha-

Zuccharelli. Another; water, and a boat; pleaſing.
Wilſon. Landſcape; ditto.

But what at *Hagley* is moſt worthy of notice, is the grounds, which Lord *Littleton* has diſpoſed with the utmoſt taſte.

The walk from the houſe leads through a wood, by the ſide of a purling ſtream, which meanders over graſs from out a dark hollow; you paſs a guſh of water, which falls into it, and winding higher up the hill, turn by the ſide of another brook, which gurgles through a rocky hollow; another guſhing fall, over bits of rock, attracts your notice; which paſſing, you come to the Prince of *Wales*'s ſtatue. This ſpot commands a fine view of the diſtant country over the houſe.

Winding from hence through the wood, you look to the left upon diſtant grounds, until you come to a ſeat, inſcribed to *Thomſon*, in theſe lines:

Ingenio immortali
JACOBI THOMSON,
Poetæ Sublimis.
Viri boni
Ædiculam hanc in ſeceſſu quem vivus dilexit,
Poſt mortem ejus conſtructam,
Dicat dedicatque,
GEORGIUS LITTLETON.

From hence you look down on a fine lawn, and, in front, upon a noble bank of hanging wood, in which appears a temple. To the left a diſtant view of *Malvern* hills.

From hence paſſing a well, called after the patriarch, from which you have a diſtant view of a hill over the wood, you enter a grove of oaks, in which you catch a glance at the caſtle, through the trees, on the top of the hill, beautifully riſing out of a bank of wood.

Next

Next we came to an ionic rotunda, incloſed in a beautiful amphitheatre of wood; it looks down upon a piece of water in the hollow of a grove, at the end of which is a palladian bridge. The ſcene is pleaſing. From hence the path winds through a fine wood of oaks, in which is a bench, by the ſide of a trickling rill, with this inſcription:

Inter cuncta leges, et per cunctabere doctos,
Qûa ratione queas traducere leniter œvum,
Quid minuat curas, quid te tibi reddat amicum,
Quid purè tranquillet, honos an dulce lucellum,
An ſecretum iter, et fallentis ſemita vitæ.

Which lines are well ſuited to the ſequeſtered retired ſpot in which they are placed. The path then leads, by the ſtream, and under the trees, to a fine open lawn incloſed by wood; at one end an urn inſcribed to *Pope*:

ALEXANDRO POPE,
Poetarum Anglicanorum elegantiſſimo, dulciſſimaque.
Vitiorum Caſtigatori acerrimo,
Sapientiæ doctori ſuaviſſimo.
Sacra eſto.
1744.

Paſſing two benches, and a ſlight guſh of water, you riſe to the ruined caſtle; from the top of which is a very beautiful view, down upon the woods, lawns, ſlopes, *&c.* and prodigiouſly extenſive proſpect over the country. *Worceſter*, *Dudley*, the *Clee Hills*, are a part of the ſcene; the *Wrekin*, at forty miles, and, it is ſaid, *Radnor-tump*, at eighty miles diſtance.

Following the path, you paſs a triangular water, the meaning of which I do not underſtand, and walk down under the ſhade of oaks, by the ſide of a winding woody hollow, to the ſeat of contemplation,

Sedes Contemplationis,
Omnia Vanitas.

The

The view is only down into the hollow among the trees. Next we came to the hermitage, which looks down on a piece of water, in the hollow, thickly ſhaded with tall trees, over which is a fine view of diſtant country. This water is ſomewhat too regular. In the hermitage this inſcription:

"And may, at laſt, my weary age
"Find out the peaceful hermitage,
"The hairy gown, and moſſy cell,
"Where I may ſit, and rightly ſpell
"Of every ſtar that heaven doth ſhew,
"And every herb that ſips the dew,
"Till old experience do attain,
"To ſomething like prophetic ſtrain,
"Theſe pleaſures, Melancholy, give,
"And I with thee will chuſe to live."

Il Penſeroſo.

Winding down, you come to a root cave by the water's edge; a retired ſpot; and at the other end of the *pond* a cave of grotto work.

Coming out of the grove, and riſing the hill, you command to the left, as you move, a moſt beautiful view of the country, a noble ſweep of incloſures of a charming verdure, to a bench, from which you look into the vale on the houſe at your feet, with a ſweet little ſtream ſerpentining by it. Next you come to another bench inſcribed from *Milton:*

"Theſe are thy glorious works, Parent of Good!
"Almighty! thine this everlaſting frame,
"Thus wondrous fair! Thyſelf how wondrous
"then,
"Unſpeakable! who ſits above theſe heavens
"To us inviſible, or dimly ſeen
"In theſe thy loweſt works; yet theſe declare
"Thy goodneſs beyond thought, and power di-
"vine."

You look down on an exquiſite lawn thinly ſcattered with trees, on one ſide of which is the houſe; around the whole a vaſt range of incloſures: to the right you catch a moſt beautiful ſmall green hill, with a clump of trees upon it. This view is noble indeed!

From hence you turn to the right into a grove, and preſently come to a view moſt delicious! At your feet is ſpread forth a lawn of the fineſt verdure; a cool ſequeſtred hollow, ſurrounded with thick wood; above which, in front, you catch *Thomſon*'s Seat, in the very ſpot of elegance itſelf; on a ſweet little green hill, the top of which juſt ſhews itſelf above the trees, and half diſcloſes the temple almoſt emboſomed in wood. A little to the left of it, and higher, is the *Grecian* portico, finely backed with a ſpreading grove. Over that, on a noble ſweep of irregular hill, riſes the obeliſk, backed with a vaſt range of wood, in the nobleſt ſtile: The variety of ground fine, and the whole of it ornamented with ſurprizing taſte as well as magnificence. A better aſſemblage of unconnected objects managed moſt ſkilfully to form one whole, can ſcarcely be imagined: Yet have I read a deſcription of *Hagley*, in which it is *thus* mentioned:—"*You turn into* "*a thicket, and* HAVE A LOOK *at the Doric Pavilion,* "Thomſon's *Seat, and the Obeliſk.*"

Leaving this noble ſcene, the path brings you to a bench under a very fine oak, which looks down, as before, on the hollow lawn; in front you view the green hill, with the clump of trees on it, which here appears moſt exquiſitely beautiful: on one ſide of it diſtant water peeps moſt pictureſquely among the trees, and over all the *Wrekin* rears his venerable head.

Purſuing the walk through the grove, you come to the ſeat inſcribed

Quieti & Muſis,

which commands moſt elegant ſcenes: You look down on a green hollow, ſurrounded by fine oaks; to the

the right you ſee ſome water through the trees: riſing above this lower ſcene, you look to the left upon *Thomſon*'s Seat, thickly backed and ſurrounded with wood; above it the obeliſk appears nobly. To the right a *gothic* houſe (the parſonage) ſeen obſcurely among the trees; likewiſe incloſures broke by wood riſing moſt elegantly one above the other.

Next you come to a bench under a ſtately oak commanding a lawn; to the right *Pope*'s urn, and a riſing hill crowned with a clump of trees; and following the path, it brings you to a very fine dell arched with wood, and a great variety of water in a holl w at your feet. To the right, cloſe to you, a ſpring guſhes out of the ground on rock work, and falls into a ſtream in the hollow. Further on another rill murmurs over broken rocks, and uniting with the ſame ſtream, it falls again, and winds away moſt beautifully among the wood. Upon the ſeat is this inſcription:

"Hic gelidi fontes, hic mollia prata Lycori;
"Hic nemus: hic ipſo tecum conſumere ævo."

Croſſing the dell, you riſe to another ſeat, the ſtream winding in the hollow beneath; and the whole under the ſhade of large oaks: To the right you catch an urn, and look back upon the ionic rotunda, which is ſeen very beautifully. Turning to the left, and coming to the urn, you find it inſcribed as follows:

To the Memory of
WILLIAM SHENSTONE, Eſq;
In whoſe Verſes
Were all the natural Graces,
And in whoſe Manners
Was all the amiable Simplicity
Of paſtoral Poetry,

With the ſweet tenderneſs
Of the Elegiac.

Paſſing on you come to a bench by the ſide of the winding ſtream, thickly covered with wood; and entering a grove almoſt impervious to the ſun, meet with a bench around a vaſt oak, that commands a fine variety of ſcenery. To the right you look upon the river, and riſing among the wood the rotunda ſtrikes your eye; the ſituation admirable; to the left you command the Palladian bridge, having a freſh view of the water, in a hollow all overhung with wood: Behind you, on a fine hill, is the ſeat *Quieti & Muſis.*

Returning through the grove, you paſs ſeveral benches, and arrive at one ſurrounded by the moſt bewitching ſcenes: It is a moſs ſeat, with this inſcription:

" Ego lauda ruris amœni
" Rivos & muſco circumlita ſaxa nemuſque."

The ſpot is totally ſequeſtered, and might almoſt be called the paradiſe for contemplation to indulge in: the whole is over-arched with the ſhade of tall ſpreading trees; it is ſurrounded with banks of ſhrubby wood, of moſs, and ivy; the eye cannot wander from the beautiful, in ſearch of the ſublime; nor will one ſigh ever be heard on this bench, for diſtant proſpect. In front you look upon a caſcade, breaking from out a perpendicular bank of ivy; and preſenting to the eye a beautiful fall of tranſparent water, that glitters in this dark grove; the effect amazingly fine. It takes a natural courſe, and breaking over a ground of rock moſs and ivy, loſes itſelf among the ſhrubs at your feet. To the right is a ſweet little watery cave of rock moſs, *&c.* in which is a ſmall ſtatue of *Venus*; the reſt of the ſcene is a fine dark ſhade of wood.

Winding

Winding up the ſide of the hill, you look down on a romantic irriguous woody valley; hearing the noiſe of falling water, but ſeeing none. Coming to a bench, you juſt look down to the right on a guſhing ſtream half covered with trees; in front, *Venus* emboſom'd in a ſweet hollow of wood.

Winding round the ſides of the river, you come to the Palladian bridge; a portico'd temple of the ionic order; the view admirably fine. You look full upon a beautiful caſcade, broke into two ſheets by a rock, which falls into the water over which the bridge is thrown. A little above this a piece of wild ground is half ſeen, and further on a beautiful lawn, at the end of which a fine green ſwelling hill, upon which ſtands the rotunda: the line of view to theſe objects is through a thick tall wood, which gives a ſolemn brownneſs to the whole ſcene, very noble. The inſcription:

" Viridantia Tempe,
" Tempe quæ ſylvæ cingunt ſuper impendentes."

Leaving this exquiſite ſpot, you turn through a grove by ſeveral ſlight water-falls, and come out not far from the houſe.

Theſe grounds, upon the whole, cannot be ſufficiently praiſed: the natural variety is great, and the advantage of being ſo nobly cloathed with venerable oaks, peculiarly fortunate; but art has added freſh luſtre to every feature of nature, and created others which diſplay a pregnant invention, and a pure and correct taſte. Waters that are trifling in themſelves, are thrown into appearances that ſtrike and delight the mind, and exhibited in ſuch an amazing variety, that one would be tempted at firſt to think the ſource vaſtly more conſiderable than it in reality is. Let me further add, that the buildings have an equal variety, are all in a moſt juſt taſte, and placed with

the utmoſt judgment, both for commanding the moſt beautiful ſcenes, and alſo for aſſiſting in forming them, themſelves.

To-morrow I return to Huſbandry; allow me therefore here to conclude myſelf, *&c.*

LETTER

LETTER XXIII.

THE ſoil about *Hagley* is various; light lo ms, ſand, and cold ſtiff ſpungy clays. The average rent is about 20*s.* an acre: There is ſome arable that letts at 30*s.* and ſome meadows ſo high as 3*l.* Farms from 50*l.* to 200*l.* a year.

The courſes,

1. Turneps
2. Barley
3. Peaſe
4. Wheat
5. Barley
6. Clover two or three years, and then ſome add
7. Wheat on one earth.

Alſo,

1. Fallow
2. Wheat
3. Oats
4. Clover and ray graſs.

They plough four times for wheat, ſow two buſhels on cold lands before *Michaelmas*; and gain, upon an average, twenty-eight buſhels. For barley they ſtir three times, ſow three buſhels and a half in *March* or *April*, and gain upon an average thirty-five; ſixty have been gotten. They ſtir but once for oats, ſow four buſhels before barley ſeed-time; the mean crop thirty ſix. They likewiſe give but one ploughing for peaſe, ſow three buſhels and a half, or four; never hoe them; and get thirty in return. For rye they plough twice, ſow two buſhels and a half; the crop twenty.

For turneps they give three ploughings; do not hoe them: The average value 30*s. per* acre; uſe them chiefly for ſheep. Clover they ſow with barley or oats; mow the firſt crop, of which they get three tons of hay *per* acre, and graze it afterwards. Many farmers mix trefoile with it.

Some few tares ſown, for feeding horſes with, green. Very few potatoes.

Lime is the principal manure; they lay one waggon load *per* acre; formerly they had as much as they could carry for 9*s.* or 10*s.* but now only ſixty buſhels for 13*s.* or 14*s.* they uſe it for turneps, and find it anſwers beſt on light land: Some few farmers mix earth with it.

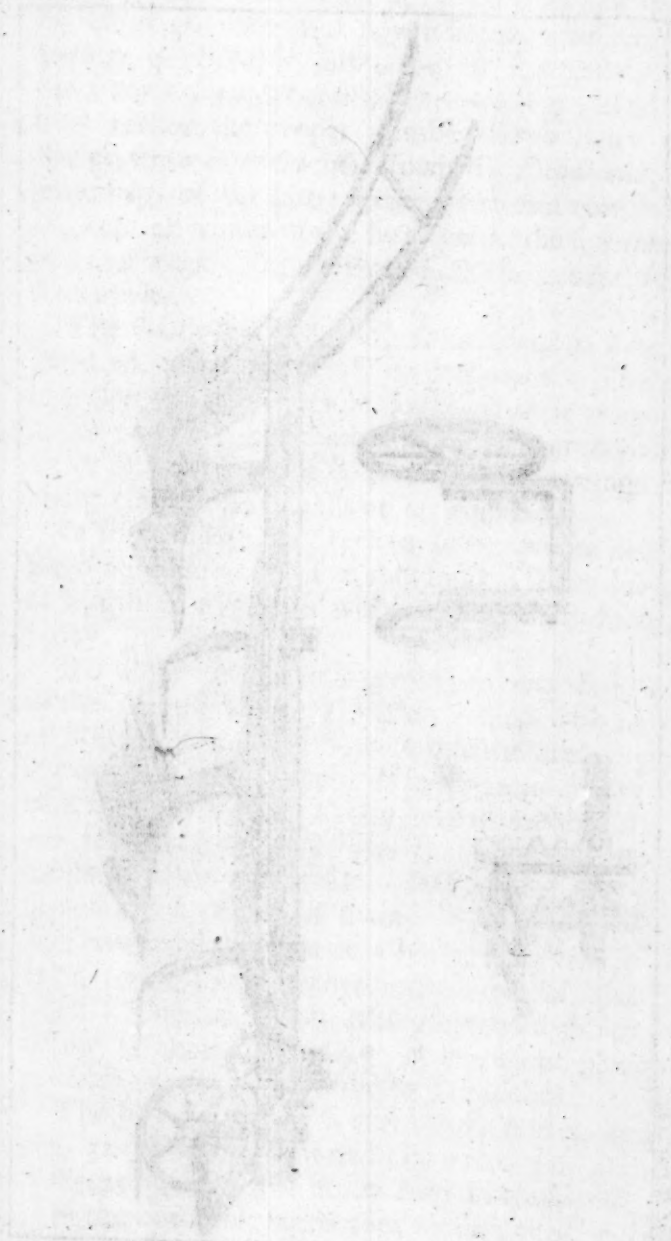
Draining is pretty well underſtood here, and that chiefly owing to the excellent example of Lord *Littleton*, who ordered many drains to be dug of various depths, and three or four inches wide at bottom; the method uſed in filling them on graſs land (where they were chiefly made) was to take the firſt ſpit of turfs, and wedge them into the drains, and then throw in the moulds, without ſtone, wood, or any thing; and the drains thus made have ſtood exceedingly well, and never yet failed. It is an excellent contrivance, and highly worthy of imitation, and eſpecially in countries where ſtones and wood are ſcarce.

The common farmers alſo drain their moraſſy lands in a very effectual manner, by cuts a yard wide at top, ſixteen inches at bottom, and four feet deep; they fill up eighteen inches deep, with logs of wood and faggots, and then the moulds. The coſt of theſe drains is 1*s.* the perch of eight yards. The improvement is extremely great; they make land of 5*s.* an acre worth 30*s.* at once.

They ſtack their hay at home; and ſome few have got into the way of chopping their ſtubbles; convinced not only of the importance of littering cattle well, but alſo of raiſing large quantities of manure.

Good graſs land letts in general from 2*l.* to 3*l.* an acre, and is uſed moſtly for dairying; but the country, however, is chiefly in tillage. An acre will ſummer feed a cow; or keep ſeven ſheep. They univerſally water their graſs fields whenever it can be done, which they find the greateſt improvement of all. Their breed of cattle is the long horns. The product

of



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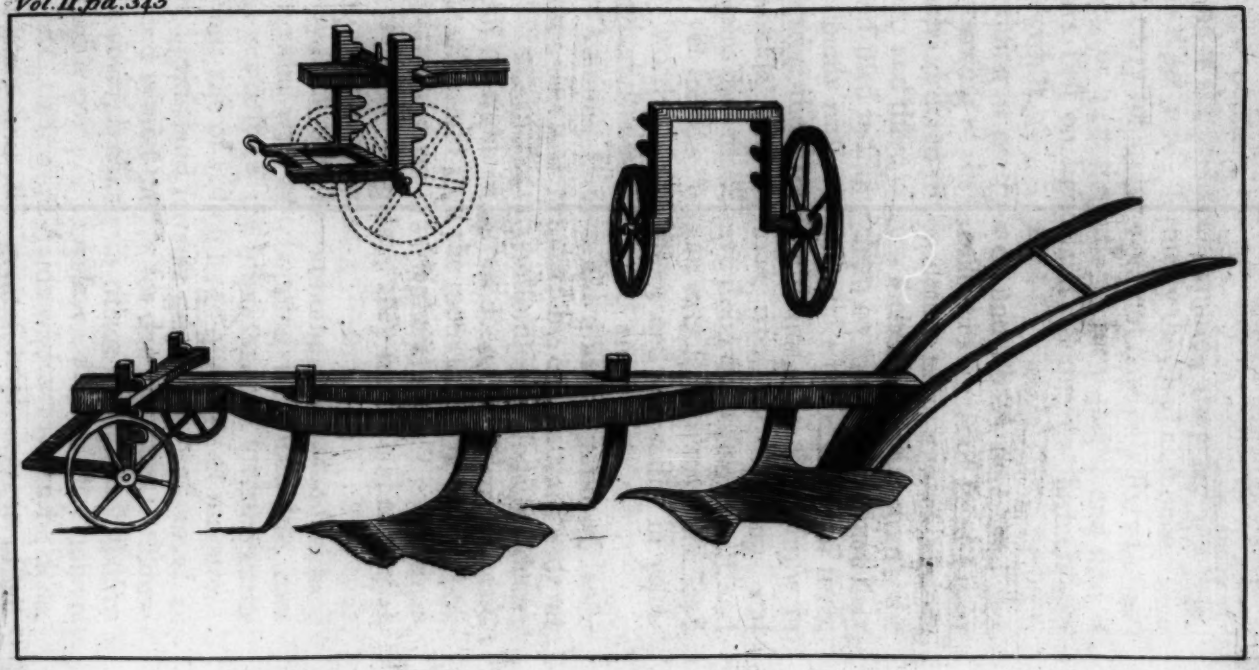

of a cow they reckon 6*l.* or 6*l.* 10*s.* They uſed to be lett at 3*l.* rent; but now it is much higher. The average quantity of milk, four or five gallons. To three cows they generally keep two pigs: And ſeven they reckon the proper number for a dairy maid. Barley ſtraw is the winter food till *Candlemas*, then ſome hay, of the latter about a ton to a cow. They are kept all winter in the farm yard, the ſummer joiſt is 2*s.* a week. The calves ſuck in general four or five weeks.

The flocks of ſheep riſe from forty to four, five hundred, and a thouſand, on commons The profit in incloſures, they reckon doubling their money, or about 10*s.* or 12*s.* a head, and on the commons about 2*s.* or 2*s.* 6*d.* There is no folding. The average fleece about *lb.* ½, or 2*lb.* ſells at 1*s.* a pound.

In their tillage they reckon ſeven horſes neceſſary for a hundred acres of arable land. They uſe three at length in a plough with a driver, and do an acre a day.

But a new invention is coming in very faſt, which is the uſe of double ploughs; which with only the addition of one horſe, does double the work, by turning two furrows at once: It is no gimcrackery buſineſs, but ſo ſolid and ſtrong a machine that the *common* farmers approve it, and accordingly ſome hundreds of them are made. In Plate X. fig. 1. is a ſketch I took of one of them.

The annual expence of a horſe, they reckon at 6*l.* or 6*l.* 10*s.* The ſummer joiſt is 2*s.* 6*d.* and 3*s.* a week. The time of breaking up the ſtubbles for a fallow is about *May-day*. The price of ploughing, *per* acre 6*s.* the depth three to five inches.

The hire *per* day of a cart, three horſes, and driver, 5*s.* of four horſes and two carts, 7*s.*

Great quantities of ſtraw cut into chaff.

In the hiring of farms they reckon 550*l.* neceſſary for one of 100*l.* a year; but many are taken for a leſs ſum.

Land

Land ſells at thirty and thirty-three years purchaſe.

Tythes are generally taken in kind.

Poor rates 3*s.* to 4*s.* in the pound; the employment of the women and children ſpinning; all drink tea.

The farmers carry their corn three or four miles.

Leaſes are in general upon terms, from ſeven to twenty-one years.

The following are particulars of ſeveral farms in this neighbourhood.

	100 acres in all	1	man
	10 graſs	2	maids
	90 arable	1	boy
£.	120 rent	1	labourer
	7 horſes	3	waggons
	6 cows	2	carts
	5 young cattle	3	ploughs.
	150 ſheep		
Another,	150 acres in all	200	ſheep
	30 graſs	2	men
	120 arable	1	boy
£.	110 rent	2	maids
	8 horſes.	3	labourers
	12 cows	3	waggons
	2 fatting beaſts	2	carts
	4 young cattle	3	ploughs.
Another,	135 acres in all	130	ſheep
	100 arable	1	man
	35 graſs	2	boys
£.	90 rent	4	labourers
	6 horſes	3	waggons
	7 cows	3	carts
	1 fatting beaſt	2	ploughs.
	5 young cattle		
Another,	80 acres in all	6	cows
	12 graſs	4	young cattle
	68 arable	10	ſheep
£.	50 rent	1	man
	4 horſes	1	boy

1 maid,

	1 maid	2 carts
	1 labourer	2 ploughs.
	1 waggon	
Another,	45 acres in all	5 young cattle
	10 graſs	1 boy
	35 arable	1 maid
	£. 25 rent	1 labourer
	3 horſes	2 carts
	6 cows	1 plough.

LABOUR.

In harveſt, 1*s.* and board.
In hay-time, ditto.
In winter, 1*s.* and beer.
Reaping, 5*s.* 6*d.* to 6*s.*
Mowing corn, 1*s.* 6*d.*
——— graſs, 2*s.* to 2*s.* 6*d.*
Ditching, $4\frac{1}{2}d$ to 6*d.* eight yards.
Threſhing wheat, $3\frac{1}{2}d$. *per* buſhels.
——— barley, 2*d.*
——— oats, $1\frac{1}{2}d$. ditto.
——— peaſe, 2*d.*
Amount of a year's earnings, 15*l.* to 16*l.*
Head-man's wages, 10*l.*
Next ditto, 6*l.* 10*s.* to 7*l.*
Boy of ten or twelve, 2*l.* 15*s.*
Dairy maids, 3*l.* 10*s.*
Other ditto, 2*l.* 15*s.*
Women *per* day in harveſt, 6*d.* and board.
——— in hay time, 6*d.* and beer.
——— in winter, 5*d.*
Value of a man's board, waſhing, and lodging, 10*l.*

IMPLEMENTS.

A waggon, 18*l.*	A double ditto, 3*l.* 10*s.*
A cart, 8*l.* to 9*l.*	A harrow, 1*l.* to 1*l.* 5*s.*
A plough, 1*l.* 1*s.*	A ſcythe, 3*s.* 6*d.* to 4*s.*

A ſpade,

A ſpade, 4*s.*
Pointing a coulter and ſhare, 4*d.*
Shoeing, 1*s.* 4*d.*
Cart harneſs, 1*l.* 5*s.* *per* horſe.

PROVISIONS, *&c.*

Bread—Wheat, $3\frac{1}{2}$*lb.* for 6*d.*
Cheeſe, 4*d.*
Butter, 7*d.* 18 *oz.*
Beef, 3*d.*
Mutton, $3\frac{1}{4}$*d.*
Veal, 3*d.*
Pork, $3\frac{1}{2}$*d.*
Milk, $\frac{1}{2}$*d.* *per* pint.
Potatoes, 4*d.* to 6*d.* *per* peck.
Candles, $7\frac{1}{2}$*d.* *per lb.*
Soap, 7*d.*
Labourer's houſe-rent, 2*l.* 10*s.* to 3*l.*
——— firing, 30*s.*
——— tools, 5*s.*

BUILDING.

Bricks, 12*s.* *per* thouſand.
Tiles, 14*s.*
Maſon, *per* day, 1*s.* 4*d.*
Carpenter, 1*s.* 4*d.*
Thatcher, 1*s.* and board.

In the pariſh of *Hagley* are the following farms, beſides ſmall ſpots, and Lord *Littleton*'s park.

N°.		£.
1	200 acres	140 rent
2	80	50
3	68	40
4	45	25
5	70	30
6	150	85
7	80	80

N°. 8	200	130
9	160	120
10	135	90
11	30	15
12	140	70
13	25	48
	1383	£. 923

In the whole about 2000 acres.

The cattle upon theſe farms are as follow:

N°. 1	17 horſes	10 cows	30 ſheep
2	4	6	10
3	5	4	10
4	3	6	0
5	8	10	30
6	7	4	150
7	6	14	200
8	7	7	200
9	7	8	150
10	5	5	120
11	3	1	40
12	7	8	160
13	5	0	0
	74	83	1100

My next ſtage was to *Broomſgrove*, where the huſbandry is as follows:

The ſoil is of two ſorts, ſand and clay; rents high, from 20*s*. to 40*s*. an acre. Farms from 40*l*. to 200*l*. a year.

The courſe,

1. Fallow
2. Wheat
3. Barley
4. Clover, two or three years
5. Wheat
6. Turneps
7. Barley
8. Peaſe
9. Oats
10. Clover.

Which

Which would be, upon the whole, excellent, did not the barley and wheat come together at firſt.

The average crops are,

Of Wheat 35 to 40 buſhels.
Of Barley 40 to 45.
Of Oats 50.
Of Beans 40, ſet and hoed.
Of Peaſe 30.

For turneps they plough three or four times; no hoeing, which is very extraordinary among farmers that hoe their beans. The average value is 30*s. per* acre; they uſe them for ſheep and beaſts.

For potatoes they generally plough up the turf, and dibble the ſlices in one foot from each other. While growing they hand hoe and hand weed well. They get large crops in this manner, and very fine wheat or barley after them.

They have plenty of marle in this country, chiefly red and blue; they lay thirty three horſe cart loads on an acre; and reckon that it laſts very good five or ſix years; coſts 3*l.* an acre; it is reckoned a vaſt improvement. Of lime they lay a waggon-load *per* acre of ſixty buſhels; it coſts 1*l.* carriage included.

The product of a cow they reckon at 3*l.* to 4*l.* the quantity of milk from two to ſix gallons a day.

Very few ſheep kept.

In their tillage they reckon eight horſes neceſſary for the management of one hundred acres of arable land; uſe four in a plough, and do an acre a day. Some farmers have the double ploughs, which they work alſo with four horſes. They calculate the annual expence of a horſe at 8*l.* *May* is the time of breaking up the ſtubbles for a fallow; and the price of ploughing 4*s.* to 5*s. per* acre; the depth four to ſix inches.

The hire of a cart, three horſes, and a driver, 8*s.* a day.

They practiſe the cutting of ſtraw into chaff in common.

Four

Four hundred pounds they reekon neceſſary for a man who hires a farm of 100*l.* a year.

Tythes both gathered and compounded; if the latter,

Wheat pays 5*s.*
Barley 4*s.*
Oats 2*s.* 6*d.*
Peaſe 4*s.*
Poor rates, 1*s.* to 2*s.*

The following particulars of farms will ſhew the general œconomy.

	60 acres in all	2 men
	40 arable	1 boy
	20 graſs	1 maid
£.	100 rent	1 labourer
	6 horſes	2 waggons.
	15 cows	2 carts
	5 young cattle	2 ploughs.
Another,	200 acres in all	20 young cattle
	40 graſs	20 ſheep
	160 arable	3 men
£.	180 rent	2 boys
	10 horſes	3 maids
	20 cows	4 labourers.
	6 fatting beaſts	
Another,	40 acres in all	5 cows
	10 graſs	8 young cattle
	30 arable	1 boy
£.	53 rent	1 maid.
	4 horſes	
Another,	55 acres in all	8 cows
	15 graſs	10 young cattle
	40 arable	1 man
£.	69 rent	1 boy
	5 horſes	1 maid.

LABOUR.

In harveſt, 1*s.* and board.
In hay time, ditto.

In

In winter, 9*d.* 10*d.* and beer, and a dinner now and then.
Reaping 4*s.* 6*d.* to 5*s. per* acre.
Mowing corn, 1*s.*
——— graſs, 2*s.*
Threſhing wheat, 3*d.* a buſhel.
——— barley, 1½*d.*
——— oats, 1*d.*
——— peaſe, 1*d.*
Amount of a labourer's year's earnings, 20*l.*
Firſt man's wages, 8*l.*
Next ditto, 6*l.*
Boy of ten or twelve years, 50*s.*
Dairy maids, 3*l.*
Other ditto, 50*s.*
Women *per* day in harveſt, 6*d.* and board.
In hay time, ditto.
In winter, 6*d.* and beer.
Value of a man's board, waſhing, and lodging, 6*l.*

IMPLEMENTS.

A waggon, 20*l.*
A cart, 8*l.*
A plough, 1*l.* 1*s.*
A harrow, 15*s.*
A roller, 10*s.* 6*d.*
A ſcythe, 3*s.*
A ſpade, 4*s.*
Laying a ſhare and coulter, 1*s.*
Shoeing, 2*s.*
Cart-harneſs, 30*s. per* horſe.

PROVISIONS, &c.

Bread——wheaten, 1½*d.*
Cheeſe, 3½*d.*
Butter, 7*d.* 17 *oz.*
Beef, 3*d.*
Mutton, 3½*d.*
Veal, 2½*d.*
Pork, 4*d.*
Milk, ½*d. per* pint.

Potatoes,

Potatoes, 4*d.*
Candles, 7*d.*
Soap, 7*d.*
Labourer's houſe rent, 3*s.* to 50*s.*
——— firing, 30*s.*

At *Broomſgrove* I firſt remarked the abominable cuſtom of ſtripping up the timber trees, to make them look like May-poles, to the utter deſtruction of the timber, and diſtorting the face of the whole country.

Four miles on this ſide of *Worceſter* land letts from 15*s.* to 40*s.* an acre; farms from 20*l.* to 200*l.* a year.

Worceſter is a very well built, and handſome city: the great ſtreet is remarkably fine. It is ſuppoſed to contain about twenty five thouſand ſouls; but this I take to be an exaggeration. There are ſeveral manufactures carried on here, of which the Glovers is the moſt conſiderable, employing ſeveral thouſands of hands

Men earn from 7*s.* to 9*s.* *per* week.
Women 4*s.* to 5*s.*
Children 1*s.* 6*d.* to 3*s.* 6*d.*

Burying crapes are alſo made here: the men in which branch earn from 5*s.* to 9*s.* a week.

The Porcelane works are very famous: but not carried to that degree of perfection which ſome have aſſerted: the clearneſs of the ground, and the beauty of the paintings, are neither of them equal to the *Dreſden*, which it is pity they do not aim, with more ſpirit, to equal, and then excel. It is well known that all the porcelane in *Europe* may be melted in a *Dreſden* cup, unhurt; and that the *Dreſden* cup will itſelf melt in an old *China* one, unhurt; which ſhews the amazing perfection that empire had long ago attained in every part of the curious arts that do not depend on deſign. The earnings of the people employed at *Worceſter* are various,

Men from 12*s.* to 3*l.* 15*s.* a week.

The Labourers 6*s.* and 7*s.*
Children 1*s.* to 3*s.*

From *Worceſter* I took the road to *Oxford*, through a country whoſe agriculture is extremely various. At *Perſhore* I made enquiries, and found that the ſoil is all of the heavy kind, either clay or loam: Incloſed lands lett from 15*s.* to 20*s.* *per* acre. The open at 10*s.* Farms from 60*l.* to 150*l.*

Their courſes,

1. Fallow
2. Barley
3. Beans
4. Wheat.

A moſt excellent courſe for heavy land.

1. Fallow
2. Barley
3. Peaſe
4. Wheat.

Alſo, 1. Turneps
2. Barley
3. Clover, one year.
4. Wheat.

This likewiſe excellent. The average crops as follow:

Of wheat twenty-five buſhels.
Of barley twenty-four.
Of beans twenty-five.
Of peaſe twenty-five.

They plough three times for turneps; never hoe, 1*l.* 10*s.* the average value.

They uſe a little lime, twenty buſhels *per* acre, 3½*d.* each, they reckon it good only for light land.

The product of a cow they value at 3*l.* The flocks of ſheep eighty to two hundred; the profit 10*s.* a head. To one hundred acres of arable they allot ſix horſes, uſe them five at length, do an acre a day; the depth they ſtir four or five inches; four ſhillings an acre the price of ploughing.

The following are the particulars of ſome farms in this neighbourhood.

260 acres in all
100 graſs
160 arable.
£. 300 rent
15 horſes
24 cows
14 young cattle
100 ſheep
4 men
3 boys
2 maids

	2 maids	4 carts
	3 labourers	6 ploughs
	4 waggons	
Another,	100 acres in all	1 man
	60 graſs	2 boys
	90 arable	2 maids
	£. 100 rent	2 labourers
	9 horſes	2 waggons
	14 cows	3 carts
	10 young cattle	2 ploughs.
	50 ſheep	
Another,	90 acres in all	5 cows
	10 graſs	10 young cattle
	80 arable	1 man
	£. 70 rent	1 boy
	5 horſes	1 labourer.

LABOUR.

In harveſt, 30*s.* and board for the harveſt.
In hay time, 1*s.* and board.
In winter, 10*d.* and beer.
Reaping, 2*s.* 6*d.* and board.
Mowing corn, 8*d.* and board.
——— graſs, 1*s.*
Ditching, 6*d.* to 8*d.* eight yards.
Threſhing wheat, 3*d.* to 4*d.*
——— barley, 2*d.*
——— oats, 1½*d.*
——— peaſe, 2*d.*
——— beans, 1½*d.*
Firſt man's wages, 9*l.* to 10*l.*
Next ditto, 8*l.*
Boy of ten or twelve years, 3*l.*
Maids, 3*l.*
Women *per* day in harveſt, 6*d.* and board.
In hay time, 6*d.* and beer.
In winter, 5*d.*

PROVISIONS, &c.

Wheat bread, $1\frac{3}{4}d.$
Cheeſe, $3d.$
Butter, $7d.$
Beef, $3d.$
Mutton, $3d.$
Veal, $2d.$
Pork, $4d.$
Candles, $7d.$
Soap, $7d.$
Labourer's houſe rent, $20s.$ to $30s.$
——— firing, $30s.$
——— tools, $10s.$
Amount of a year's earnings, $15l.$

IMPLEMENTS, &c.

A waggon, $15l.$ to $20l.$
A cart, $5l.$ to $7l.$
A plough, $10s.$
A harrow, $20s.$
A ſcythe, $3s.\ 6d.$
A ſpade, $3s.\ 6d.$ to $4s.$
Shoeing, $1s.\ 4d.$

In the neighbourhood of *Bendſworth* the huſbandry improves greatly, being carried on with more ſpirit than common. This is the agriculture of the *Vale of Eveſham*.

The ſoil is chiefly clay, but much loam, and ſome that is light. Rents from $15s.$ to $30s.$ average $21s.$ Farms riſe from $40l.$ to $1000l.$ a year; but are in general large.

The principal courſes are,

1. Fallow
2. Barley
3. Beans
4. Wheat.

And, 1. Turneps
2. Barley
3. Wheat
4. Oats; very bad.

And, 1. Turneps
2. Barley
3. Peaſe
4. Wheat.

Alſo,

Alſo, 1. Fallow 4. Wheat
2. Barley 5. Oats
3. Clover, two years

The average crops are very great.

Of wheat four quarters.
Of rye four, but little ſown.
Of barley ſix.
Of oats eight.
Of peaſe twenty-five buſhels.

For beans they plough once, and dung well, and ſet them in rows from fifteen to eighteen inches aſunder, hand-hoe them twice, which coſts 4*s.* an acre each time; the average crop five quarters: The wheat after them is generally ſuperior to that after a fallow.

For turneps they ſtir but twice, hoe them once; the value *per* acre from 30*s* to 3*l.* Uſe them for ſheep. Clover they uſe for feeding their horſes in the incloſures; and alſo for the ſpring feed of lambs.

For potatoes they manure well with long dung, plough but once, dibble them in, in rows, one foot aſunder; get three or four hundred buſhels *per* acre; ſow wheat after them

They have neither marle or lime, nor do they want them, for the natural richneſs of their clays is very great, being of that ſort that falls like lime with the winter's froſts. They conſtantly fold their ſheep; ſtack their hay at home; and many of them chop their ſtubbles.

Good graſs lets from 30*s.* to 40*s.* it is uſed both for fatting and dairying: One acre will carry a cow through the ſummer, or eight ſheep. The breed of cattle is between the long and ſhort horns; their oxen fat to about ſixty ſcore. The product of a cow they calculate at 5*l.* five gallons of milk about the average quantity *per* cow. To ten cows they keep about two ſows; and eight the proper number for a dairy maid. The winter food is ſtraw and hay, of the lat-

ter from fifteen hundred weight to a ton each. The calves ſuck ſix weeks. The ſummer joiſt 1*s*. 6*d*. a week. In winter they are kept in open farms in the farm yard, but in incloſed ones, in the fields.

Their hogs they fat ſo very high as to forty ſcore, but twenty common.

The flocks of ſheep riſe from ſixty to twelve hundred; the profit they reckon at 8*s*. or 9. a head. The average fleece, in the incloſures 9*lb*. in the open fields 3 or 4*lb*.

In their tillage they reckon twelve horſes neceſſary for 100 acres of arable land; uſe five or ſix at length, and do an acre a day. The annual expence of a horſe they calculate at 7*l*. The ſummer joiſt 1*s*. 6*d*. a week. They break up their ſtubbles for a fallow in *March*. The price of ploughing *per* acre is 6*s*. and the depth two and a half or three inches; it is aſtoniſhing they can get ſuch noble crops with *ſuch* ploughing; but this ſeems to prove, that fertility of ſoil is the grand point, and that the authors, who have ſo generally preſcribed very deep ploughing as *abſolutely* neceſſary in *all* ſoils, are ſtrangely miſtaken. It is much to be queſtioned whether one acre of wheat with two inches of ploughing in this country, does not yield four times as much as ſuch writers have gained with their more *philoſophical* conduct:—not, however, that I plead for ſhallow ploughing.

The hire of a cart, three horſes, and a driver, 5*s*. a day.

In the hiring and ſtocking of farms, their ideas ſpeak a much more ſpirited huſbandry than I have commonly met with. For the ſtocking a farm of 500*l*. a year, conſiſting of 500 acres, half graſs and half arable, they calculate the following articles neceſſary.

Twenty-

Twenty-ſix horſes, at 15*l.* —	£ 390
Twelve hundred ſheep, —	1200
Thirty cows, —	240
Swine, — —	10
Harneſs — —	35
Four waggons, one a broad wheel one,	100
Two broad wheel carts, —	24
Two narrow ditto, —	12
All other implements, —	80
Rent, — —	500
Town charges, —	40
Houſe-keeping, beſides what comes from the farm, — —	100
Furniture, — —	200
Five men, — —	40
Four boys, —	12
Four labourers, —	80
Three maids, —	10
Seed,	
Seventy acres of wheat, —	100
Seventy ——— barley, —	45
Thirty-five — beans, —	28
Thirty five — oats, —	17
Twenty———clover, —	8
	£. 3271

Land ſells at twenty-eight and thirty years purchaſe.

Poor rates very high, higher than the land tax, to 4*s.* in the pound; in the villages no where lower than 2*s.*

The employment of the poor women and children is chiefly with the gardeners, of whom (as at *Sandy*, in *Bedfordſhire*,) there are great numbers: between three and four hundred acres of land in this neighbourhood are ſo employed, than let for 50*s.* and 3*l.* an acre: They carry their products around the country, to *Birmingham*, *Worceſter*, *Tewkſbury*, *Glouceſter*, *Warwick*, *Coventry*, *Stow*, *&c.* and ſeeds to *Stafford*,

Litchfield, *Leiceſter*, *Nottingham*, *&c.* aſparagus to *Bath* and *Briſtol*. Beſides this employ, the poor knit caps and ſtockings, 2*d.* to 6*d.* a day. All drink tea.

Farmers have no diſtance to carry their corn; all is uſed at home.

Leaſes from fourteen to twenty-one years.

The following are particulars of farms in this neighbourhood:

	200 acres all arable	2 boys
£.	170 rent	2 maids
	12 horſes	8 labourers.
	16 cows	4 waggons
	5 young cattle	3 carts
	170 ſheep	4 ploughs.
	1 man	
Another,	850 acres in all	1000 ſheep
	450 graſs	8 men
	400 arable	4 boys
£.	800 rent	5 maids
	30 horſes	10 labourers.
	40 cows	6 waggons
	40 fatting beaſts	8 carts
	20 young cattle	10 ploughs.
Another,	70 acres in all	1 maid
	50 arable	4 labourers
	20 graſs	3 waggons
£.	70 rent	2 carts
	7 horſes	2 ploughs.
	180 ſheep	
Another,	90 acres all arable	1 maid
£.	50 rent	1 boy
	8 horſes	2 labourers.
	10 cows	3 waggons
	2 young cattle	2 carts
	100 ſheep	2 ploughs.
	1 man	

LABOUR.

In harveſt, 30*s.* and board for the harveſt.
In hay time, 1*s.* 6*d.* and beer.
In winter, 1*s.* and beer.
Reaping, 5*s.* to 6*s.*
Mowing corn, 1*s.* 6*d.*
——— graſs, 2*s.*
Hoeing turneps, 5*s.* 6*d.* to 7*s.*
——— beans, 6*s* to 8*s.*
Ditching, 6*d.* to 9*d.*
Threſhing wheat, 4*d.* *per* buſhel.
——— barley, 2*d.*
——— oats, 1½*d.*
——— beans, 1½*d.*
Digging, 2*l.* 10*s.* or 3*l.*
Amount of a year's earnings, 18*l.*
Firſt man's wages, 10*l.*
Next ditto, 7*l.* to 9*l.*
Boy of ten or twelve years, 2*s.* 6*d.* a week.
Dairy maids, 4*l.*
Other ditto, 2*l.* 10*s.* to 3*l.*
Women in harveſt, 14*s.* and board.
In hay time, 7*d.*
Value of a man's board, waſhing, and lodging, 12*l.*

IMPLEMENTS, *&c.*

A waggon, 18*l.*
A cart, 6*l.*
A plough, 20*s.*
A harrow, 20*s.* to 4*l.*
A roller, 20*s.* to 40*s.*
A ſcythe, 4*s.* 6*d.*
A ſpade, 3*s.* 6*d.*
Shoeing, 1*s.* 8*d.*
Cart-harneſs, *per* horſe; 1*l.* 6*s.*

PROVISIONS, *&c.*

Bread——wheaten. 1½*d.*
Cheeſe, 3½*d.*

Butter,

Butter, 8*d.*
Beef, $2\frac{3}{4}d.$
Mutton, 3*d.*
Veal, 3*d.*
Pork, $3\frac{1}{2}d.$
Milk, $\frac{1}{2}d.$ *per* pint.
Potatoes, 8*d.*
Candles, 6*d.*
Soap, 6*d.*
Labourer's houſe-rent, 10*s.* to 15*s.*
——— firing, 25*s.*
——— tools, 2*s.* 6*d.*
Coals, 15*s.* a ton, laid in.

BUILDING.

Tiles, 18*s.* *per* thouſand.
Oak timber, 1*s.* 4*d.* to 2*s.*
Aſh ditto, 1*s.* to 1*s.* 4*d.*
Elm, 1*s.*
Maſon *per* day, 1*s.* 6*d.* and beer.
Carpenter, 1*s.* 6*d.* and ditto.
Thatcher, 1*s.* 4*d.* and beer.
Farm-houſes, plaiſter and thatch; a few brick and tile.

In the pariſh of *Bendſworth* are,

1500 acres	£. 1000 rent, (beſides
14 farms	that of houſes
80 horſes	£. 200 rates
120 cows	600 labourers.
1000 ſheep	

The following experiments and remarks of Mr. *William Penny*, who keeps the Inn at *Bendſworth*, are much worthy of notice. He is very ſenſible and intelligent.

In the *planting* of wheat he made this trial: Upon a loamy ſoil, a mixture of clay and ſand, he ſet a peck of wheat on the third of an acre, in rows, nine inches

inches aſunder, and ſix inches from grain to grain: The land had been well fallowed: The crop was neither hand hoed nor hand weeded: Produce thirty-four pecks; but there being a path acroſs the field, waſted a fifth: Total, therefore forty pecks, or *per* acre, thirty buſhels. This is a very great produce from ſo ſmall a quantity of ſeed, and proves much in favour of the advocates for thinner ſeeding than common. The expence of planting was 3*s*. or 9*s*. *per* acre.

Mr. *Penny* makes it a rule in the ſeeding his ground, always to change the ſoil, but not the ſeed: That is, upon clay to ſow wheat that was raiſed upon ſand, gravel, or light loam; and the contrary. Diſtance he reckons nothing; but his experiments on this point are not deciſive; as *all* his own wheat ſeed comes from the *Vale of White Horſe, Berkſhire.*

His preparation of the ſeed is, to ſteep it in a brine firſt made ſtrong enough to bear an egg, and then with half as much more ſalt added: In this he ſteeps it two hours. He finds it a remedy for the ſmut; as the ſtrength of the brine throws up the unſound corn, ſuch being always the lighteſt. He diſtinguiſhes the burnt grain and the ſmutty by this; the burnt is as long as the common grain, and black; the ſmut is black alſo, but perfectly globular, and puffs like a puff ball. After the ſteeping he dries it with lime.

He has more than once ſown the ſkimmings of the ſteeping quite ſmutty, and had perfectly ſound grain in return: This he attributes to the ſtrength of the brine.

His barley ſeed he ſhifts from ſoil to ſoil, in the ſame manner as wheat.

The culture of barley here is excellent. They plough the land in *March*, (but this ſhould be in *October*,) in *May* dung it, twenty loads to an acre, twenty-eight buſhels *per* load. In *June* plough it in. The land then lies till *September*, when it is ploughed again, and arched up, and ſo lays for the winter. In *March* it is ploughed down, one half, or two buſhels *per* acre

acre of ſeed being then turned in, and the other half, or two buſhels more, harrowed in at top: This management yields ſeven quarters *per* acre on an average. It certainly is moſt excellent huſbandry; and the circumſtance of ſpreading the dung on the fallow, and mixing it well with the ſoil by the ſucceeding ploughings, preferable, I apprehend, to laying it on in the winter before ſowing, which alſo depends on the coming of ſharp froſts.

Lucerne, Mr. *Penny* has cultivated, and with good ſucceſs. He ſowed two acres in drills in 1761, twelve inches aſunder; the ſoil a ſandy loam. It was hand hoed well for three or four years, and afterwards breaſt ploughed twice a year. The hand hoeing coſt 40*s.* an acre; but the ploughing only 5*s.*

Theſe two acres have kept twelve horſes conſtantly in the ſtable from the beginning of *April* to the end of *September*, with only a ſeventh part of the hay they otherwiſe would have had: The keeping in this manner, Mr. *Penny*, (and his neighbours alſo,) value at 2*s.* a week; or 24*s.* a week for the two acres.

Twenty ſix weeks at 24*s.*	31	4
Beſides this, his ewes and lambs have been kept on it a month every ſpring, twenty at 6*d.* a week. (*N. B.* It is worth more than this at ſo critical a ſeaſon, but our cultivator exaggerates nothing.)	2	0
£.	33	4

Or, *per* acre, 16*l.* 12*s.*

It is now in very good heart, and having anſwered ſo greatly, Mr. *Penny* deſigns ſowing a larger quantity. The profit is very noble, and proves ſufficiently, that Lucerne is a moſt capital article in *Britiſh* agriculture, and greatly deſerves to be brought into univerſal uſe. Nor is the public under a ſlight obligation to this uſeful huſbandman, for attending ſo much to this and other matters of the ſame kind.

Purſu-

Purſuing the road to *Oxford*, I found, at *Moreton*, ſome variations that deſerve minuting. The ſoil is chiefly a gravel; letts at an average 20*s.* an acre. Farms riſe from 50*l.* to 500*l.* a year, but in general are 2 or 300*l.*

Their courſes in the common fields:

1. Fallow
2. Peaſe
3. Wheat
4. Barley.

And,

1. Fallow
2. Beans
3. Wheat
4. Barley.

In the incloſures,

1. Break up, Oats
2. Wheat
3. Peaſe
4. Wheat
5. Oats
6. Turneps
7. Oats and Graſſes.

The average crops are,

Of wheat, three quarters and a half.
Of barley, five.
Of oats, five.
Of peaſe, two and a half.
Of beans, three.

They plough three times for turneps, hand hoe twice, and are worth, upon a medium, 30*s.* an acre.

Their flocks of ſheep riſe from 100 to 1400; the profit they reckon at 7 or 8*s.*

In their tillage they uſe four horſes at length, and do an acre a day; eight or nine neceſſary for one hundred acres of arable land. Some farmers break up their ſtubbles for a fallow before winter, but moſtly in ſpring. The price of ploughing is 7*s.* 6*d.* an acre, and the depth four or five inches.

The following particulars of farms will ſhew the general œconomy of this country.

200 acres in all
140 arable
60 graſs
£. 200 rent
12 horſes
16 cows
400 ſheep
20 young cattle
3 men
2 maids
2 boys
3 labourers.

Another,

Another,	570 acres in all	20 young cattle
	450 arable	1100 ſheep
	120 graſs	5 men
	£. 530 rent	3 boys
	40 horſes	4 maids
	30 cows	11 labourers.
	10 fatting beaſts	
Another,	460 acres in all	8 fatting beaſts
	410 arable	900 ſheep
	50 graſs	3 men
	£. 400 rent	3 boys
	30 horſes	3 maids
	10 cows	10 labourers.
Another,	310 acres in all	10 fatting beaſts
	210 arable	800 ſheep
	100 graſs	3 men
	£. 320 rent	2 boys
	17 horſes	3 maids
	30 cows	5 labourers.

LABOUR.

In harveſt, 8*s.* and board.
In hay time, 1*s.* 6*d.* and beer.
In winter, 1*s.*
Reaping, 5*s.* to 6*s.*
Hoeing turneps, 5*s.*
Threſhing wheat, 4*d.*
——— barley, 2*d.*
——— oats, 1½*d.*
Firſt man's wages, 7*l.* 10*s.*
Next ditto, 5*l.*
Boy of ten or twelve years, 2*l.* to 2*l.* 10*s.*
Dairy maids, 4*l.*
Other ditto, 3*l.*
Women *per* day in harveſt, 1*s.*
In hay time, 6*d.*

PRO-

PROVISIONS, &c.

Bread, 1½*d.*
Cheeſe, 3½*d.*
Butter, 7*d.*
Beef, 3½*d.*
Mutton, 3½*d.*
Veal, 2½*d.*
Pork, 4*d.*
Bacon, 8*d.*
Milk, ½ *per* pint.
Potatoes, 3½*d.*
Candles, 6*d.*
Soap, 6*d*
Labourer's houſe-rent, 30*s.* to 40*s.*
——— firing, turf, none bought.

To *Chipping Norton* and its neighbourhood the land declines much: It is chiefly open fields, and does not lett more than from 5*s.* to 8*s.* an acre. Farms in general from 30*l.* to 100*l.* a year.

About *Enſtone* land letts from 7*s.* to 15*s.* Farms chiefly from 50*l.* to 200*l.* a year.

Ditchley, the ſeat of the Earl of *Litchfield*, is about a mile and half out of the road, and three miles from *Blenheim*; it is very well worth viewing. The front is handſome, and the diſpoſition of the apartments renders them very convenient.

The hall is a handſome room, thirty-ſix feet ſquare, the ceiling is painted by *Kent*, incloſed in an oval of fret work; the walls cream coloured ſtucco, with lead coloured and gilt ornaments. The door caſes finely carved. In the pannels are buſts of

Milton,
Socrates,
Livy,
Homer,
Virgil,
Cicero,
Sappho,
Shakeſpear,
and
Dryden.

baſſo

baſſo relievos, ſcrolls, feſtoons, &c. ſurround them.

The Muſic-room is twenty-four by twenty-two. Here are, among ſome portraits,

Venetian School. Two courtezans Great ſpirit and expreſſion (*N. B.* The ſame as at *Kiplin*, Mr. *Crowe's.*)

Rubens. His family. Very fine. The colours and ſpirit of the horſe are great; but the expreſſion of the wife and ſon nothing.

Wotton. Landſcape. Not diſagreeable, but this is not the *green* of nature.

The dining-room, thirty-ſeven by twenty-two. Here we find

Holbein. *Henry* VIII. Exceedingly fine colouring and ſpirit; an attitude bluſtering as the monarch.

Vandyke. *Charles* I. and family. *Charles* II. on his knee. Nobly free, elegant, and ſpirited.

Unknown. Duke of *Monmouth* and his mother. A ſweet attitude.

Jonſon. *Philip* the IId. The countenance expreſſive of a ſoul dark as *Philip's.*

Ditto. Sir *Henry Lee.*

Corn. Ketel. Sir *Chriſtopher Hatton.*

In this room is a black marble ſlab of one piece, nine feet by four and a half.

The Damaſk Bed chamber twenty-two by twenty-one.

Vandyke. Admiral *Lee.*

Jonſon. The Queen of *Bohemia.*

In the Drawing room, tweenty four by twenty-one, the chimney-piece is of black and white marble, handſome, the cornice ſupported by ionic pillars. Here are

Lely. The Counteſſes of *Rocheſter* and *Lindeſay.*

Ditto. Sir *Francis Harry Lee.*

Jonſon. Sir *Harry Lee.*

The Saloon, thirty-three feet by twenty-four. The moſt ſtriking article in this room is an antique ſtatue of

of the Goddeſs of Health, about two feet and a half high: nothing can be more ſweetly elegant than the drapery, the attitude, and the purity of the head. The whole figure is in the chaſteſt ſtile of the antique; the body finely ſeen through the drapery.

The Green Damaſk Bed-chamber, twenty four by twenty-two. The chimney piece of white marble, poliſhed; the frieze *cornucopia*'s of fruit, *&c.* The ornaments above two corinthian pillars gilt, incloſing a landſcape by *Wotton*, which is ſomewhat unnatural.

Unknown. Two pieces of ruins and rocks. Bright and glowing. The caſcade fine.

The White Dining-room, thirty-ſeven by twenty-two, highly ornamented. The cieling is in compartments of white and gold; the cornice and frieze richly executed in the ſame; the pannels, window frames, and picture ones of the ſame: The glaſſes very elegant, and fine ſlabs of *Siena* marble. Here are

Lely. *Charles* II. Dutcheſs of *Cleveland.*

Kneller. The preſent Duke of *Grafton*'s great grandfather, and Lady *Charlotte Fitzroy.*

From this room there is a paſſage to a ſmall neat Chapel, in which is an altar-piece, a dead *Chriſt*, a copy from *Pouſſin.*

The Velvet Bed-chamber, twenty four by twenty-two. The bed and hangings of figured *Genoa* velvet. The chimney piece of white marble highly poliſhed; over it a ruin, very pleaſing, by *Panini.*

The *Chineſe* Dreſſing-room, twenty-four by twenty-two. It is completely fitted up, and furniſhed in the taſte of that country; richly ornamented with carving gilt; *Chineſe* figures; picture and glaſs frames the ſame. The chimney-piece of white marble, poliſhed. A ſlab of agate marble The tapeſtry is fine. Two landſcapes, but rather brilliant than natural.

The gardens are diſpoſed with taſte; the ſloping banks ſcattered with wood, and hanging to the ſerpen-

tine lake, with the rotunda, finely placed on a riſing ground among the trees, is a very beautiful landſcape.

From hence to *Oxford* the country continues much the ſame, chiefly open; and a quarry of ſtone near the ſurface of the whole. As I ſhall not fly through that city quite ſo thick as I did on another occaſion, but ſtop to view what is beſt worth notice; I ſhall here put a period to this long letter.

I am, *&c.*

LETTER

LETTER XXIV.

THE firſt entertainment we reaped at *Oxford* was the viewing the collection of pictures left by the late General *Guiſe* to the Univerſity; but as they are not yet placed where they are to remain, I could not get a ſight of all; moſt of them, however, I had the pleaſure of ſeeing. Here follows a catalogue.

Viviano and *Ricci*. A piece of architecture rather large, adorned with many ſmall figures. By no means pleaſing.

Spagnoletto. Two heads (carricaturas) in one piece, ſmaller than life. Very ſtriking and horrible.

Moriglio. A portrait of a *Spaniſh* nobleman, half length, after the life. Dark.

Unknown. Virgin and Child. Admirable drawing. A fine group, and excellent attitude.

Titian. Three ladies. Three antidotes to ——.

Han. Carrache. A buffoon.

Unknown. St. *Sebaſtian*.

Nicolo dell' Abate. A picture in light and ſhadow, repreſenting *Diana* and nymphs in the bath, changing *Actæon* into a ſtag. Very fine and correct drawing.

L. Carrache The legs of a dead *Chriſt*. What a ſubject! But admirably foreſhortened.

Guerchino. The prodigal ſon. Something in the ſtile of *Baſſan*; but of moſt unmeaning expreſſion.

Guido. Holy love conquering prophane love. An unmeaning ſubject, and an unpleaſing picture.

Unknown. A woman turning her head and pointing to an open book. Fine.

Titian A head with part of the ſhoulders. Unpleaſing.

Paſqualini Romano. A picture with many figures, two feet high, repreſenting *Solomon*'s Judgment.

Andrea Mantegna. Our Saviour on his way to *Calvary.* Ridiculous expreſſion. The figure behind our Saviour that of a grinning fool.

Unknown. The rape of the *Sabines.* A ſtrange confuſion of figures.

Dominichino. St. *Jerome* praying. A fine figure; colours ſtrong.

Vandyke. A ſmall ſketch in light and ſhade, with many figures, repreſenting a ſaint ready to ſuffer martyrdom. A nothing.

Annib Carrache. A ſmall octagonal picture on a black ſtone, repreſenting our Saviour carried to the ſepulchre. A ſtrange group. Nothing pleaſing.

Tintoret. St. *Laurence*'s martyrdom. Strongly grouped, but in a dark ſtile.

Ang. and Gobbo Carrache. Martyrdom of St. *Peter.* Very unpleaſing

Pouſſin. A large piece of architecture, with figures. Faded and unpleaſing.

Bourgognone. A battle. Dark and very indiſtinct, but ſpirited.

Ricci. *Apollo* and *Marſyas.* Very unpleaſing: The colours dark, but expreſſion ſtrong.

L. Carrache. Our Saviour known by the two diſciples in breaking the bread. Mere poverty of expreſſion; and a formal group, but the colours ſtrong

Dominichino. *Sophoniſba* dying of grief. No brilliancy, but the attitude and expreſſion good.

Guido. Flight into *Ægypt.* Very fine: The attitudes and expreſſion good; but no brilliancy.

Andrea

Andrea Sacchi. The heads of St. *Andrew* and St. *Paul.* Strong expreſſion.

Leonardo da Vinci. St *Elizabeth* with St *John* when a babe, muſing on a croſs made of reeds. Exceeding natural and fine: The boy incomparable.

Salviati. *Judith* holding *Holofernes'* head. Very fine: Strong colours and expreſſion.

D. da Volterra. The deſcent from the croſs. Great variety and ſtrength of expreſſion; but the colours gone.

Rubens. *Meduſa's* head. Very ſpirited and ſtriking expreſſion.

Ani. Carrache. A holy family; the figures one foot high Very fine; the attitudes and colours ſpirited

Correggio. Our Saviour crowned with thorns. The figures a foot and half high. Very fine. Colouring of a lively brilliancy: The lights ſtrong but unnaturally diffuſed.

Imola. The laſt ſupper Well grouped, but nothing in it ſtriking.

Anib. Carrache. A boy's head, as large as life. Lively.

G. de Carrache A landſcape; a hare hunting A nothing.

B. de Garofola. St *Catharine*, a foot and a half high. A formal figure in the ſtile of *Albert Durer.*

Guiſeppe d'Arpino. *Adam* and *Eve* driven out of *Paradiſe.* Prodigious fine attitudes. *Eve's* naked body very beautiful. The colouring good.

Leonardo da Vinci. The head of a woman ſmiling. Lively.

Bartolomeo. A child's head, ſmaller than the life. Ditto.

Correggio. The pale of an altar, with figures larger than the life. Vaſt expreſſion in the old man; the plaits of the fleſh fine, and the colours noble; but the general brilliancy

gone. The figure of a woman to the right moſt unmeaning

Ann. Carrache. The family of the *Carrache*'s repreſented in a butcher's ſhop, and thoſe celebrated painters in butchers dreſſes. *Annibal* is weighing ſome meat to a *Swiſs* of the Cardinal of *Bologna*'s guard. *Auguſtine* is ſhaking a nail, and trying if it holds faſt, that he may hang on it a leg of mutton, which he holds in his left hand. *Gobbo* is lifting up a calf to hang it on a beam, and *Ludovico* ſtoops down killing a ſheep. The mother of them is repreſented as a ſervant maid that comes to buy ſome meat. The likeneſſes are traditionally ſaid to be wonderful.—This, ſurely, is the moſt ſtriking inſtance of an odd and groteſque taſte; to tranſmit ones ſelf to poſterity in the moſt odious of common characters. *Alexander* was ſollicitous to have the beauty of his perſon tranſmitted to future times, in the works of the beſt artiſts; what would he have thought of a painter that threw him into the attitude of killing a ſheep? Here is, however, great ſtrength and variety of expreſſion in this phantaſtic picture.

Dominichino. A landſcape. Dark and unpleaſing, but the attitudes of the figures are very ſpirited.

Furino. A woman repreſenting Simplicity, with a dove in her hand. Dark; nothing pleaſing.

Badalocchi. The Good *Samaritan.* Very ſtrong and ſpirited drawing, well fore-ſhortened; colours gone.

Ricci. Our Lady with her Babe; the figures about two feet high. A very fine attitude; the child as ſpirited as the ſubject will

will admit. The colouring was good, but almoſt gone.

Raphael. A youth's head ſmaller than the life. Very formal.

Titian. The Nativity. The colouring of this picture is exceedingly fine. The poſture of the virgin incomparable, and the expreſſion of the other figures great. The grouping excellent, and the light ſtrongly and ſpiritedly diffuſed from the child.

Ditto. Another Nativity. Unpleaſing colours. A ſtrange group; and the expreſſion of the old fellow over the child quite vulgar.

Anni. Carrache. Our Lady with her Babe in her arms, near as large as life, ſtanding on clouds. The attitude of the virgin very fine; and the expreſſion of her countenance ſweetly amiable; the child fine, and the whole group picturesque.

Aug. Carrache. Suſannah and the Elders: Not pleaſing; her naked body is, however, thrown into a ſtriking light, and very well drawn. The attitude of the old fellow very ſpirited, the drapery good, and the lights ſtrong.

Cavedone. The Nativity. This picture is alſo attributed to *Zuccarelli*. The brilliancy is in his ſtile, and pleaſing. The attitude of the ſhepherd kneeling, with the ſtaff in his hand, is good; alſo that of the old man in the fore-ground. The little angels are executed in a lively manner. But there is a dimneſs of ſhade over the whole piece, as if unfiniſhed or damaged.

Aug. Carrache. Head of our Saviour. Strong expreſſion.

Schidone. Our Lady and her Babe. A ſweet little group, in a good taſte and ſpirit.

Baſſan. *Chriſt* laid in the Sepulchre. Very capital expreſſion of the exact kind; it is almoſt as minute as *Albert Durer*, eſpecially that of the dead body.

Barocci. *Chriſt* ſhewn to the people by *Pilate*. Very fine. The group, attitudes, and colours pleaſing.

Perugino. *Chriſt* appearing to *Mary Magdalen*. *Chriſt*'s expreſſion that of a clown, and her's no better. The drapery, landſcape, and colours, equally bad.

Raphael. The infant *Jeſus* and St. *John* embracing. Spirited. The countenance of him to the left good.

Ditto. Three heads in water colours. In a ſtrong expreſſive ſtile of drawing; but unpleaſing.

Carpacio. St. *Catharine*. The attitude natural; but the drapery in a bad taſte, and the colours faint.

Andrea del Sarto. Our Lady with her Babe, and St. *John*: Her attitude fine, and her countenance exquiſite: The boy ſpirited.

Holbein. A father and his two children praying. A nothing.

Raphael. The Nativity, containing eighteen figures, two feet high. Her poſture neither natural or graceful; and the colours are diſagreeable: The group is pretty good, and the figure of the old man ſitting a fine one. It is the mere rubbiſh of *names* to call this an "aſtoniſhing peformance."

Paul Veroneſe. Our Lady with her Babe, St. *Catharine*, and St. *Francis*. Very fine and ſpirited attitudes; a pleaſing group, but the colours nothing. The attention of the old man good.

Andrea del Sarto. *Chriſt* coming out of the Temple.

"Group nods at group, each figure has its brother,
"And half the picture juſt reflects the other."

Domi-

Dominichino. A Miſtreſs and her maid. A nothing. But it is *called* one of the beſt works of this great maſter.

Parmegiano. Our Lady with her Babe. Exceedingly fine, graceful, and pleaſing; the colours brilliant, and the head of the old man in a great ſtile.

Dominichino. *Cupid* drawn by two doves; ſpirited, and ſomewhat pleaſing.

Carlo Cignani. A copy of *Corregio's* Night. The lights ſtrong and ſpirited. The figure in obſcura, leaning on a ſpear, forms a fine attitude. The group good.

Tintoret. *Diana* in the bath, changing *Actæon* into a ſtag. Very fine drawing of the naked. Several of the figures are beautiful, and the attitudes ſpirited.

Tintoret. The communion of the Apoſtles. Very dark, and the lights ſtrongly and partially thrown, but the attitudes have ſpirit.

Gob. Carrache. St. *John* preaching in the deſert. The landſcape rich and fine, and the attitudes of the figures nobly ſpirited.

Salvator Roſa. *Erichthonius* delivered to the Nymphs for education. Great ſpirit in the attitudes; but it hangs in ſo bad a light that one can ſee but little of it.

Dominichino. *Moſes* delivering the daughters from the ſnares of the ſhepherds. The poſtures and attention of the figures fine. The landſcape good.

Ditto. A landſcape. Some fiſhermen; and women waſhing linnen. Very dark; the lights partially and ſtrangely thrown.

Fernandos. A youth playing on the guittar. Great expreſſion of attention.

Titian. *Chriſt* tempted in the Deſert. An inſipid figure, and the colours quite gone.

Domi-

Dominichino. Two Cherubs. Nothing.

Guerchino. A St. *John*'s head, with a lamb. • Very dark, but has ſome ſpirit.

Schiavone. *Marſyas* and *Apollo*, with *Midas*. Very unpleaſing.

Unknown. *Cleopatra*. Fine and ſpirited.

Anni. Carrache. Copy of *Correggio's Cupid*. The drawing, ſpirit, and relief of the figure fine.

Ditto. The laying in the Sepulchre; an octogon picture; ſtrongly expreſſive.

Ditto. St. *Francis* in a viſion. Wonderfully fine; exceedingly ſpirited, lively, and brilliant. The attitudes are ſurprizingly great; and the life in every figure ſtriking. The relief of the right hand very ſtrong.

Gob. de Carrache. A landſcape; the waterfalls good; and the trees natural.

Titian. A *Venus* and *Cupid*, as large as life. Aſtoniſhingly fine. The whole body moſt exquiſitely painted:—The attitude eaſy, graceful, and amazingly pleaſing. The roundneſs and turn of the limbs in the relief of life itſelf; the turn of the head and neck elegantly graceful. The face wonderfully beautiful; the colouring very fine; and, in a word, the whole figure exquiſitely beautiful and enticing.

Ditto. Portrait of the woman that was his model for the famous *Venus* at *Florence*. Very beautiful.

Guido. A choir of Angels. A nothing.

P. da. Cortona. Sketch of a cieling.

A ditto.

Lud. Carrache. A half length as large as life. Very fine, lively, and ſpirited.

Giorgione. Half length of a woman as large as life. Very diſagreeable.

Titian.

Titian. Our Lady with her Babe and St. *John.* Very fine attitude and drapery.

Guido. Dying *Magdalen* and Cherubs. Incomparably fine in expreſſion and colouring.

Julio Romano. An Emperor on horſeback. Very ſtrong and ſpirited.

Vandyke. King *Charles* the Firſt's white horſe. Very lively.

Bourgognone. The Slaughter of the Innocents. Wild, but ſpirited; the colours gone.

Florentine School. Conſtantine. There are many figures in this piece, and ſpirited

Unknown. A ſmall piece containing ſeveral figures, a group among rocks. Moſt ſpiritedly touched. The lights, drapery, and attitudes, great; ſomething like *Salvator.*

Ditto. Two figures, one of them fiſhing. Spirited.

Ditto. A Maſter and his Scholar. Exceeding fine. The airs of the heads great, and the colouring fine. A little in the ſtile of *Rembrandt.*

Ditto. *Diana.* An unfiniſhed ſketch; the drawing of the naked figure fine.

Ditto. *Suſannah* and the Elders; ſmall. Her figure good, but the expreſſion of her countenance fooliſh.

Ditto. A woman bathing, and a man ſtealing her cloaths. Her figure well done.

Ditto. A holy family; a ſmall drawing. Exceeding fine attitude and expreſſion.

Ditto. The Adoration of the Shepherds; a drawing. Exceedingly fine.

Ditto. A Nativity; the Deity in the clouds. The light on the Virgin's countenance good.

Ditto. A Virgin and Child; ſmall. Good colouring and attitude.

Correggio. *Chriſt* crowned with thorns. Very fine.

Michael

Michael Angello delle Battaglie. Two ſmall pieces, the one repreſenting a mountebank drawing a tooth; the other many people playing at bowls. Good. The mountebank one, well coloured.

* * * * *

In the Hall of *Chriſt's church*, among many others, the following portraits will ſtrike you moſt.

Morley, Biſhop of *Wincheſter*. Good.

Trevor, Biſhop of *Durham*. By *Hudſon*. Very fine drapery.

Robinſon, Primate of *Ireland*. Very ſpirited.

In an old Chapter-houſe, two portraits, very expreſſive and ſpirited. They are thought to be *Frederick*, Duke of *Saxony*, and *Philip*, Archduke of *Auſtria*.

The *Radcliff* Library is a beautiful building: The ruſtics; the double corinthian pillars, the cornice, and balluſtrade; all unite to form one complete whole, admirably proportioned, and of the happieſt unity of effect; and this without any termination: The concluſion in the balluſtrade would have been one of a moſt elegant ſimplicity;—but the dome rather hurts the general effect: beſides, it is not equally beautiful with the reſt of the building; its being ribbed too much divides the attention of the ſpectator, and the pediments around, which ſupport the urns, are heavy.

The inſide is a circular domed room, of forty-eight feet diameter, and ſixty high. The dome, the upper and lower cornices, and the ſurrounding arches, are light and elegant, but the croſs work of compartments ſomewhat break the effect; nor are the ionic pillars at bottom well proportioned to the room; they are too ſmall, and without effect.

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In the Picture-Gallery are many pieces that are very capital. Thoſe which pleaſed me moſt are the following.

Holbein.

Holbein. Sir *Thomas Bodley*. Very fine.
Unknown. King *Alfred*. Good.
William of *Wickham*. Very ſpirited.
William Wainfleet, Biſhop of *Wincheſter*. Good.
Holbein. Sir *Thomas Pope*. A moſt noble portrait; the face and hands admirable, and the drapery good.
Unknown. *Henry* IV. of *France* on horſeback. Lively and ſpirited.
Richard Wightwick. Fine.
A ſtatue of *William*, Earl of *Pembroke*. A very noble and ſpirited attitude.
Ditto of the *Venus de Medicis*. Pleaſing. *Apollo*.
Duke of *Marlborough*.

Buſts.

Tully. *Zeno*.
Ariſtides. *Phocion*.

Vandyke. *Franciſcus Junius*; a ſketch: Exceedingly fine, free, and ſpirited.
Kneller. Lord *Crew*, Biſhop of *Durham*. Good.
Unknown. *Martin Luther*. A true polemical countenance.
Lely. Saint *Joſeph*. Free and eaſy.
Williams. Dr. *King*. Spirited.
Richardſon. *Prior*. Exceeding good.
Gibſon. *Locke*. Good.
Spagnoletti. *Duns Scotus*. Wonderfully ſpirited.
Unknown. Sir *Richard Tomlins*. Very good.
Tycho Brahe. Ditto.
Gibſon. Dr. *Flamſtead*. Spirited.
Sebaſtian Bourdon. God's covenant with *Noah*. Diſagreeable colouring, and a ſtrange group.
Schalcken. The ſeven Vices on copper; Pride, Luſt, Sloth, Drunkenneſs, Revenge, Avarice, and Envy. Exceedingly ſtrong and ſpirited.
Jordaens. *Chriſt*'s appearance to his Diſciples after his reſurrection. Very fine.

Ramſay.

Ramſay. His preſent Majeſty. Excellent drapery, and a very pleaſing attitude.

Unknown. Fruit piece. Good.

A mathematical piece. Fine.

Frank Hall. A *Dutch* gardener. Very ſpirited.

Willarts. A ſtorm. Strong and minute expreſſion. Very fine.

Jordaens. *Moſes* ſtriking the Rock. Wonderfully fine. The back of the figure to the left noble.—The child with its finger in the mouth great; but the grouping ſtrange; and *Moſes* totally devoid of expreſſion.

Willarts. A *Dutch* fiſh-market. Amazingly fine. The figures are numerous, and the finiſhing very high.

Unknown. St. *Paul.* Good.

Bardwell. *Thomas Fermor*, Earl of *Pomfret*, and his wife: A capital piece of vulgarity.

Kneller. *Addiſon.* Good.

Unknown. *Chaucer.* Good. Minute finiſhing.

Vandyke. The great Earl of *Strafford.* Middling; but the expreſſion is not weak.

Schroder. *Charles* XII. A noble picture. Great ſtrength and ſpirit.

Unknown. The late King of *Pruſſia.* The figure of a vulgar clown.

Sir *Henry Saville.* The hands and face exceedingly fine; and the minute imitation of the matter aſtoniſhing.

Van Trump. Very good and ſpirited; the attitude excellent.

Kneller. Dr. *Wallis.* The hands and face incomparably fine.

Vandyke. Sir *Kenelm Digby.* Exceeding fine.

Unknown. The Earl of *Kildare.* Good.

The Earl of *Pembroke.* Very fine.

Archbiſhop *Cranmer.* Good.

Sir

Sir *Thomas Sackville*, Earl of *Dorſet*. Very fine.

Lady *Betty Paulett*. Great finiſhing.

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Among the *Pomfret* Statues, the following I remarked particularly:

Statue of a *Grecian* Lady. A hugeous piece of immenſity.

Ditto of *Archimedes*. Fine.

Ditto of *Minerva*. The left thigh and leg ſeen finely through the drapery.

Ditto of *Cicero*. Drapery very fine; the head ſpirited, but the attitude of the right arm mean.

Statue of a *Grecian* Lady. Very fine.

Ditto of *Sabina*. Attitude and fold of the right arm fine; but the drapery ſomewhat ſtiff.

A *Venus de Medicis*. The neck and right arm admirable; alſo the antique part of the left. All that is antique of this ſtatue is fine.

Statue of *Minerva*. Drapery good; finely tucked under the left arm.

A *Venus* cloathed. Exquiſite; the wet drapery diſplays the naked thro' it in a very fine ſtile. The form of her body admirable.

Statue of *Clio* ſitting. Turn of the head and neck fine; and the attitude good.

Statue of a young *Dacian*: Perhaps *Paris*. It is of great antiquity. Drapery good.

Statue of *Antinoüs*. Diſproportion itſelf, but owing, I ſuppoſe, to the joinings, or deſigned for an elevated ſituation.

A *Grecian* Lady. The diſplay of the left thigh and leg through the drapery fine.

Statue of *Jupiter* and *Leda*. Much defaced; but the left leg is well ſeen through the drapery, and the turn of her right thigh is good; likewiſe the remains of a fine attitude.

Statue of *Scipio Africnnns*. Drapery bold; and the poſture of the hand and arm fine.

A trunk

A trunk of a woman. Good.
A boy with his finger in his mouth. A nothing.
Statue of *Jupiter* ſitting. Heavy.
Ditto of a woman. Her form ſeen through the drapery is good.
The trunk of a woman. The right thigh and leg is pretty well ſeen through the drapery.
Germanicus's tomb. Spirited reliefs.
Statue of a *Roman* Conſul. The poſture of the right arm unnatural.
Ditto of a woman. Good.
Ditto of *Flora*. A beautiful figure and drapery.
Ditto of *Hercules*. Indifferent.
Hymen. The attitude fine.
Statue of *Venus* half naked. Her body very fine; the drapery ſlipping off it, and the turn of her left thigh and leg ſtriking.
Statue of *Melpomene* ſitting. A very expreſſive attitude, fine arm, and noble drapery.
A *Grecian* Lady. Bad drapery.
Statue of *Camilla*. Light drapery.
Ditto of a *Grecian* Philoſopher. Middling.
Statue of *Caius Marius*. Very fine expreſſion; and the poſture of the right hand and arm very natural.
Ditto of *Bacchus* naked. The turn of the body incomparable; the attitude and ſpirit of the figure noble; alive.
Statue of *Julia*. Diſguſting.
The trunk of a woman ſitting. Remains of a good ſtatue, but ſadly defaced.
A naked trunk of a man. Very good; the back excellent.
A trunk of a woman. Middling.
Statue of *Hercules* choaking a lion. Very great expreſſion; the poſture of the thigh againſt the rock great; the whole fine.
Trunk of a woman ſitting. Good.
Boys embracing. Ditto.

Buſt

Buſt of a young man. Good.
Ditto of a *Diana*. Ditto.
Ditto of a Philoſopher. Ditto.
Ditto of *Niobe*. Turn of the head good.
Ditto of *Venus de Medicis*. Good.

In the Repoſitory of the *Arundelian* Marbles, is at preſent a ſmall collection of Bronzes, *&c.* lately left to the Univerſity; the following are the principal:

Marcus Aurelius. Good.
Mercury.
Bacchus.
Noah.
Moſes.
Socrates.
Aaron.
King *David*. Good drapery.
Apollo.
Ditto.
A boar.
Plato.
David and *Goliah*.
Duke of *Marlborough*.
Hercules and *Antæus*.
Hercules and *Hydra*.
Venus. Good.
The torturing of a Biſhop in the Inquiſition. A curious ſtroke.
Venus in drapery. Five haunches.
Apollo.
A Sibyl.
Cupid on a dolphin.
Hercules and Centaur.
A dragon.
A *Cæſar*'s head in clay. Good.
Sir *Iſaac Newton*
Miltiades. A relief in ſtone. Very antique.

You will obſerve, that I have given them as they ſtand, but in ſtrange confuſion, of *Moſes* and *Socrates*, King *David* and *Plato*, *&c.* I ſhould not have inſerted

this laſt, had *any* other been extant for the uſe of ſpectators; for the collection is but ſo, ſo.

In the *Bodleian* Library, among many other pictures, I remarked theſe:

Mr. *Bowles.* The beſt among the librarians.
Sir *Kenelm Digby.* Good.
Sir *Thomas More*; by his niece. Very good.
Eraſmus, by *Holbein.* Exceeding fine.
The Queen of *Bohemia.* Very lively and ſpirited.

Before I return again to Agriculture, you will allow me to conclude, by aſſuring you, *&c.*

APPEN-

APPENDIX to VOL. II.

DESCRIPTION *of a* MACHINE *to Slice* TURNEPS, *for feeding Neat Cattle, &c.*

Invented by CUTHBERT CLARKE, of *Belford, Northumberland.*

PLATE XII.

FIGURE 1. is the perſpective of the whole machine, which is about four feet ſix inches high, two feet ſix inches long, and two feet wide, outſide meaſure; it is made of common deal, three quarters of an inch thick, and its four poſts are of oak, about four inches ſquare; the feet, handles, ſliding frame, croſs bars, *&c.* are alſo of oak: The whole machine can be afforded complete for 2*l.* 2*s.* which will, with two men, ſlice three tons of turneps, into ſlices of three quarters of an inch thick, in one hour: It is alſo portable, and may, by the two men who work it, be moved from one houſe or field to another, borne by two handles like a ſedan chair. A. A. the hopper, or trunk of the machine, which is angular within, ſuited to the angle the knife, when placed in its frame, fig. 2. d. A. d. makes with the ſides thereof. B. B B. B. the frame which ſlides to and fro upon two rollers, D. D. which greatly abate the friction. E. E. two ſtrong leather ſtrops, which ſtop the ſlider at each end alternately; one end of each of

thoſe ſtrops is faſtened to the croſs bars, F. F. and the other ends to the rounds, B. B. B B. Fig. 2. in the notches, C. C. with a buckle, and may be taken up or let out occaſionally. C C. in fig. 1. are the two handles for carrying it by from place to place. G. G. Feet morticed upon the four poſts, which ſecure it from falling. H. H Two croſs bars between thoſe feet. Fig. 3. the knife, with two edges, which being turned with its claws, b. b. *&c.* at right angles to its own plane, is put into the mortices, d. d. In fig. 2. the ſcrew-pins, with the hand nuts, C. C. tighten it in the frame; and fig. 4. which repreſents a collar of iron, about a quarter of an inch thick, of which there are about eight in number for the two claws; their uſes are to put between the ſhoulders of the knife, and the upper ſides of the frame, and are put in number, as the edge of the knife is required to be raiſed above the floor of the ſlider, in order to ſize the ſlice, *i. e.* they are put on the upper ſide of the frame to make the ſlice thick, and removed from that ſide, and put between the hand-nuts and underſides of the frame, when the ſlice is to be thinner, in proportion thereto. The ſlice is cut exactly as a carpenter's inſtrument, called a ſpook ſhave, *&c.* takes its ſhaving, only the turnep-knife cuts both backwards and forwards. There is alſo a contrivance for cleaning the eye of the frame, A. fig 2. when the knife is placed upon it, *viz.* when the ſlider is pulled, *&c.* as much to one end as the ſtrop will admit, there is a piece of hard wood, nailed upon a croſs bar, at I. fig. 1. which projects about an inch towards the inſide of the machine, and is ſo thin as to ram in below the edge of the knife, whatever ſlice it is ſet to form, *for it is not ſo thick as the leaſt ſlice the inſtrument can make, viz. half an inch,* and thereby clears the eye; at each end there is the ſame contrivance, which effectually prevents any interruption in the cutting. The way to uſe the machine is very eaſy and natural; for

for as ſoon as the hopper is filled at random, by throwing up a baſket full at a time, two men ſet themſelves down on ſtools, &c. placed conveniently, and put out their feet againſt the poſts of the machine, then take the rounds in their hands, about the places marked B B. B. B. in fig. 2. and ſo pull the frame backwards and forwards as aboveſaid; and, from their poſition of body, they have great power, the extenſors of the legs, thighs, back, and arms, being mutually employed in the ſame advantageous manner as in rowing a boat, &c. The knife, at every puſh, &c. paſſes quite thro' the hopper into a cavity in the end, where no turneps can enter, becauſe it is not above two inches high, and exactly as wide as the knife is broad; indeed, if the turnep is ſo ſmall as to go into theſe dimenſions, it will be driven in undoubtedly, but will be ſliced by the knife as nicely as if four times as large. The intention of theſe cavities, of which there are one at each end of the hopper, are to let the knife paſs into them, as aboveſaid, in order to let the turneps, which are in the hopper, fall flat upon the floor of the ſlider, and then the edge of the knife, which is next to them, as ſoon as it emerges out of the cavity, bites the turneps, and takes a ſlice of any thickneſs, from half an inch to one inch three quarters at pleaſure, the whole width and length of the hopper at one ſtroke, and the ſame in its return. In ſhort, this machine makes great diſpatch, does the buſineſs very neatly, and with an inconceivable degree of eaſe; is very ſimple, and not at all liable to be out of order, otherwiſe than what the grinding ſtone can readily rectify. And although ſome people have undertaken to ſhew, that turneps need no ſlicing, it muſt be acknowledged, that, where ſo great diſpatch can be made, this, or any other inſtrument which does the buſineſs as well, and comes at ſo low a price, will make a profitable return to the occupier, in as much as, by its means, the riſque of choaking is entirely

ſuper

ſuperſeded, waſte prevented, and cattle, which have not been accuſtomed to eat turnips, entered immediately to feed upon that valuable eſculent; and alſo makes the feeding of thoſe cattle, which even take to eating turneps unſliced, leſs difficult, and they feed with greater expedition, becauſe when the turneps are properly ſliced, an ox, *&c.* will fill himſelf in half the time it will take him to do it when he has the turneps to break with his mouth, which is ſo painful an operation, as often to make the mouth bleed, ſwell, *&c.* which deters them from eating until they are near ſtarving.

End of the SECOND VOLUME.

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Fig. 1.

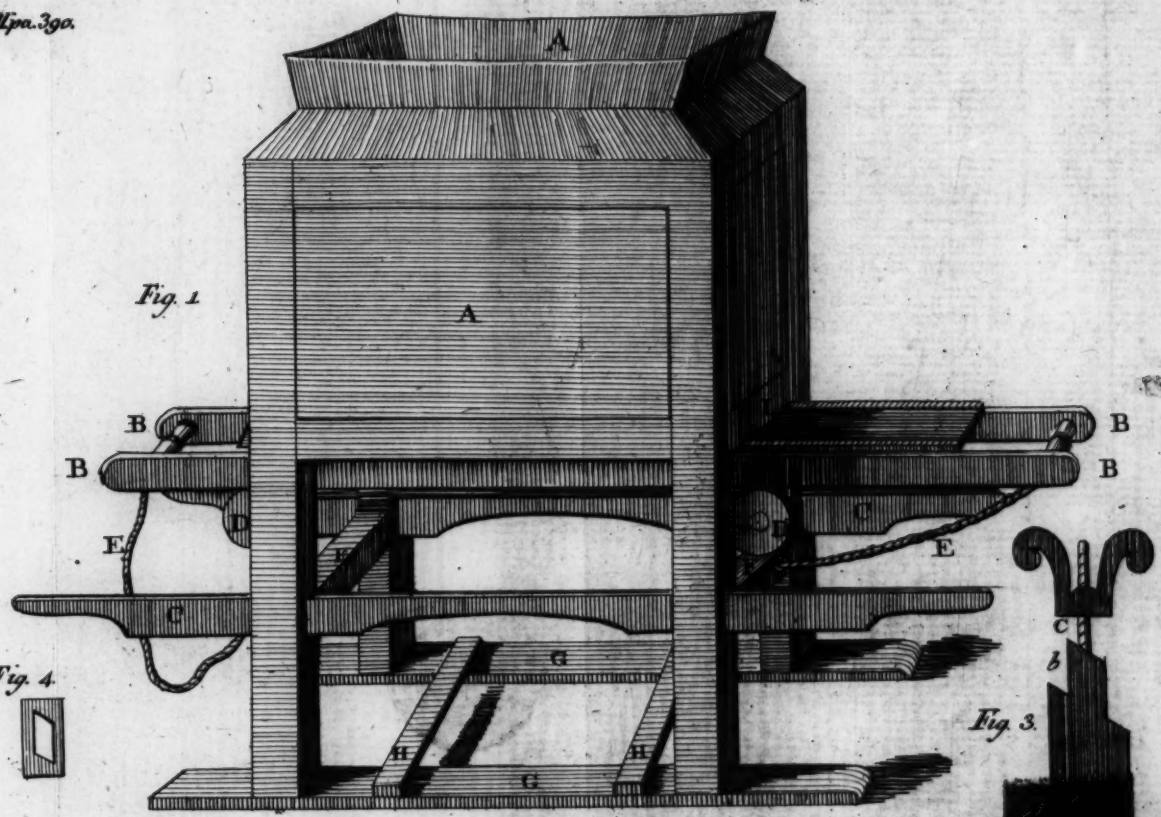

Fig. 4.

Fig. 3.
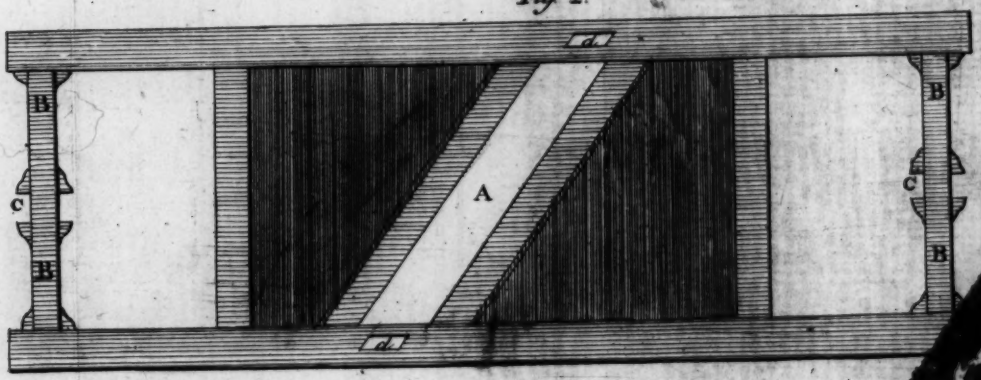
Fig. 2.